U.S. ENVIRONMENTAL PROTECTION AGENCY

TECHNICAL ENFORCEMENT SUPPORT

AT

HAZARDOUS WASTE SITES

TES X

CONTRACT NO. 68-W9-0007 WORK ASSIGNMENT NO. R05068 RECEIVED

SEP L 3 1994

FINAL
PRELIMINARY ASSESSMENT/
VISUAL SITE INSPECTION REPORT

FOR

OLIN CORPORATION JOLIET PLANT EPA ID#: ILD049809379

IN

EPA Region 5 Records Ctr.

379973

JOLIET, ILLINOIS

U.S. EPA REGION V

METCALF & EDDY PROJECT NO. 153068

WORK PERFORMED BY:

METCALF & EDDY, INC. 208 SOUTH LASALLE SUITE 1733 CHICAGO, IL 60604

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1.0 INTRODUCTION

Metcalf & Eddy (M&E) received Work Assignment No. R05068 from the U.S. Environmental Protection Agency (U.S. EPA), under Contract No. 68-W9-0007 (TES X), to conduct preliminary assessments and visual site inspections (PA/VSIs) at various RCRA facilities in Region V as part of the Environmental Priorities Initiative.

The Initiative combines CERCLA and RCRA programs in order to select and address RCRA facilities that are a high priority for corrective action using available CERCLA and RCRA authorities. The first step in prioritizing facilities is to conduct PA/VSIs. The PA consists of a preliminary review of existing state and federal file information in order to identify past and potential releases to the environment from solid waste management units (SWMUs) and/or areas of concern (AOCs). Information gathered during the PA include:

- 1. A list of SWMUs and AOCs at the facility.
- 2. Unit and waste characteristics of SWMUs and AOCs.
- 3. Site migration pathways.
- 4. Release history from SWMUs and AOCs.
- 5. Exposure potential to humans and the environment.
- 6. Data gaps.

The VSI entails an inspection of the entire facility, including interviews with state (or municipal) and facility representatives and photographs of all SWMUs and AOCs. Major factors considered in the VSI include:

- 1. The physical condition of SWMUs and AOCs.
- 2. The identification of SWMUs and AOCs not revealed in the PA.
- 3. Waste management practices.
- 4. Identification of release pathways and potential of release to each media.
- 5. Visual evidence of releases.

The VSI is also intended to uncover releases not identified in the PA, confirm the operational history of the facility, address existing data gaps and provide more information of release pathways and the environmental setting. If evidence of a release is observed at a facility, potential sampling points will be determined.

This report illustrates the results of the PA/VSI of the Olin Corporation Joliet (Olin) facility in Joliet, Illinois (ILD049809379).

Information was gathered from the Illinois Environmental Protection Agency (IEPA) and the U.S. EPA Region V files in order to conduct the PA. In addition, telephone interviews were conducted with Olin representatives. A walk-through inspection of the facility occurred on January 20, 1993. Eleven (11) SWMUs and twelve (12) AOCs were identified during the VSI. A VSI summary and field notes are provided in Appendices A and B respectively.

2.0 FACILITY DESCRIPTION

This section describes the facility location, past and present operations and ownership, waste streams, waste management practices, release history, regulatory history, environmental setting, and potential receptors.

2.1 FACILITY LOCATION

The OLIN facility is located at the intersection of Patterson and Laraway Roads south of Joliet, Illinois. The city of Joliet is situated in the west-central portion of Will County in northeastern Illinois. The site is located at a latitude of 41 28'45" N and a longitude of 88 7'00" W (see Figure 1: Facility Location Map.)

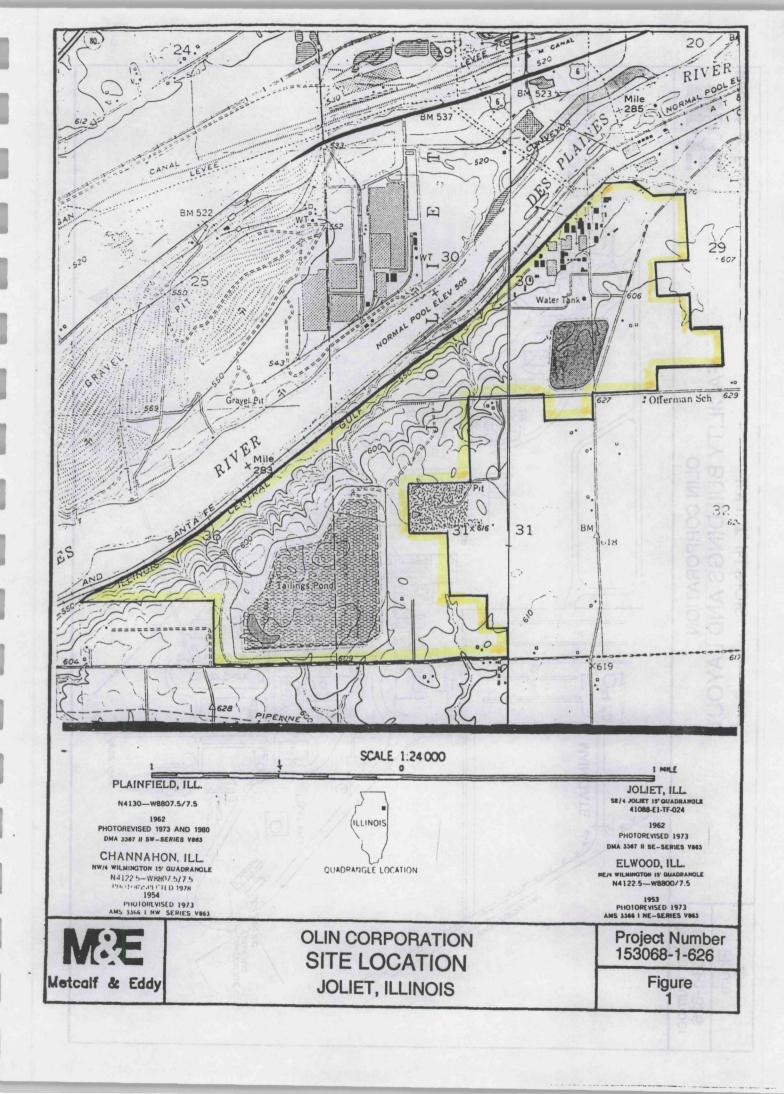
Site grounds cover 1,015 acres; 175 acres are occupied by manufacturing facilities. The facility consists of approximately 20 buildings where raw materials were combined in the manufacturing of various industrial phosphates (see Figure 2: Facility Building Layout).

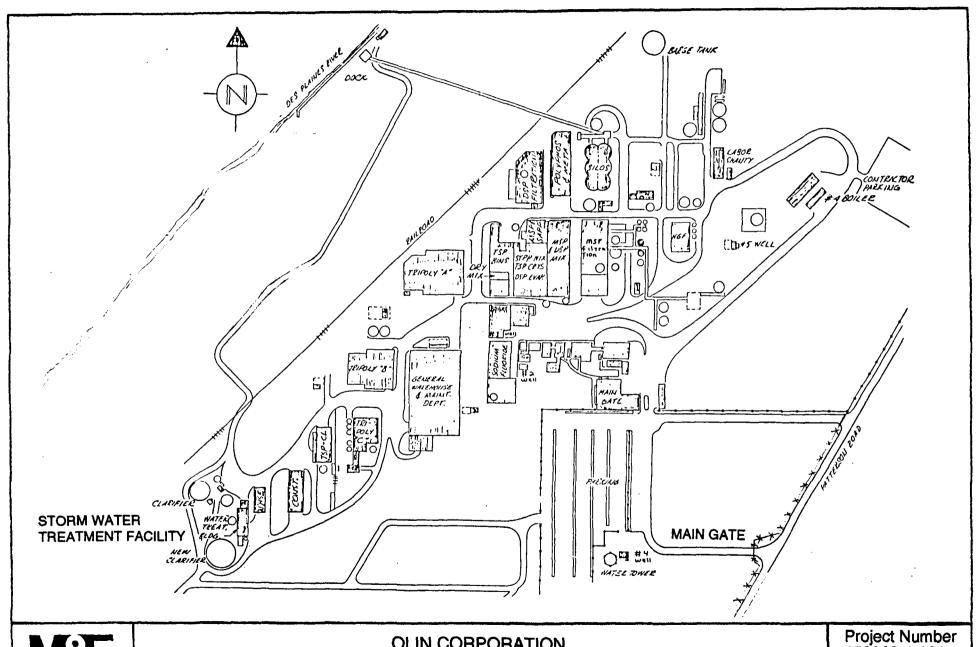
2.2 FACILITY OWNERSHIP/OPERATION

The facility was founded in 1926 by John Block for the manufacture of trisodium phosphate which was the first synthetic product used as a cleaning agent in place of soap. The plant was initially owned and operated by the Block brothers and incorporated in 1928 as the Blockson Chemical Company. In 1955, Blockson Works merged with Mathieson Alkali Company that later became known as Olin Mathieson Chemical Corporation and then Olin Corporation.

Olin Corporation is in the process of transferring ownership of the plant to Texasgulf, Inc. and Albright and Wilson Americas. The plant has been inactive since June 1991 when ownership transfer activites began. Transfer of ownership is expected to be completed by 1995. Until the transfer is finalized, Olin has requested and received permission from the IEPA to temporarily close all SWMUs. All hazardous materials have been removed from the facility. Currently, plant activities are limited to the operation of the Storm Water Treatment Facility, mining of phosphates from the treatment ponds, and basic plant maintenance.

Olin was the largest one location industrial sodium phosphate producer and the only domestic producer of industrial phosphates to use the "Wet Process". This process incorporated the use of acids in the production of industrial phosphates for use in the production of soaps and other phosphate products.





Metcalf & Eddy

OLIN CORPORATION FACILITY BUILDINGS AND LAYOUT JOLIET, ILLINOIS

Project Number 153068-1-626

Figure 2

The original plant began as one small building and a garage, manufacturing trisodium phosphate and glauber salt. In the early to mid thirties, disodium phosphate, crystalline and anhydrous, monosodium phosphate crystalline, sodium silicofluoride, tetrasodium pyrophosphate, sodium hexametaphosphate, and mono and dicalcium phosphate were produced. In the late thirties, mono and dicalcium phosphate production was discontinued.

In the forties, production expanded to include trisodium phosphate crystalline (1940), sulfuric acid (1942), trisodium phosphate chlorinated (1944), sodium silicofluoride (1948), and sodium fluoride (1949). Sodium tripolyphosphate was produced in trial quantities in 1942 and on a large scale in 1948.

In the fifties, several sulfuric acid plants were built. A hydrofluoric acid plant was built in 1954 and expanded in 1957. In 1957-58 an additional trisodium phosphate chlorinated plant and the present sodium hexametaphosphate plant were built. During the fifties the Joliet facility also produced limited quantities of tetrapotassium pyrophosphate. In 1959 the gypsum pile was built to assist in the production of phosphoric acid.

During the sixties and seventies, refinements and expansion were added to support the current Joliet production line. In 1969, Olin discontinued producing sulfuric acid due to the age of the plant and in 1975 hydrofluoric acid production was discontinued.

The facility has never been connected to a municipal sewer system. A facility sanitary sewer system has operated since the mid 1960s. In approximately 1965 an inground sanitary sewer was installed just south of the Maintenance and Warehouse building and operated until approximately 1980. It was removed in 1982. The present sanitary sewer was constructed in 1976 and served the facility until it became inactive in 1991. Presently, the facility is on a septic system.

Plant process water was initially obtained from wells located on the facility property. Starting in the early 1970s, various production lines began recycling process waters through the phosphate ponds. In 1976, all process makeup water was recycled and drawn from Total Retention Pond #2 (TRP #2) with augmentation from plant wells.

Olin originally notified the U.S. EPA as a generator of hazardous waste and as a TSD before reverting to small quantity generator status. Waste streams at the plant included unknown quantities of the following: D001 - grease/petroleum distillate, sodium permanganate solution, waste flammable liquid, waste oxidizer, waste acid, waste alkaline, waste paint related material, waste perchloric acid, waste hydrogen peroxide; D002 - waste lab acid, waste ammonium hydroxide, sodium hydroxide, sodium silicate, sodium & potassium silicates, diethylethanolamine; D003 - Reactive; D004 - Arsenic; D005 -

Barium; D006 - Cadmium; D007 - Chromium; D008 - Lead; D009 - Mercury; D010 - Selenium; D011 - Silver; D014 - Methoxychlor; D018 - Benzene (oil and paint thinner); F002 - spent halogenated solvents such as 1,1,1-trichloroethane; F003 - spent non-halogenated solvents such as xylene; F005 - spent non-halogenated solvents such as methyl ethyl ketone, and lab packs. In 1991 and 1992, Olin Corporation removed all hazardous wastes from the facility which qualified them as a large quantity generator. (See Table 1: Olin Wastes by Chemical Composition and Waste Code.)

2.3 RELEASE HISTORY

One release of hazardous waste was documented at the Joliet facility. In 1983, a mercury spill of unknown quantity occurred at the facility. No records of the spill were available from Olin at the time of the VSI. According to Olin representatives the mercury and mercury contaminated clothing may have resulted from a broken temperature gauge on a facility kiln. U.S. EPA file information indicates that spilled materials and contaminated clothing were double contained in steel drums and stored in a designated on-site hazardous waste storage area prior to off-site disposal.

2.4 REGULATORY HISTORY

On March 27, 1980 the U.S. EPA performed a Potential Hazardous Waste Site Identification and Preliminary Assessment for the Olin Joliet facility identifying it as an active generator of hazardous waste and a landfill.

On July 28, 1980 the U.S. EPA performed a Potential Hazardous Waste Site Tentative Disposition for the Olin Joliet facility and found that investigative action was needed due to insufficient information on the facility.

On August 18, 1980 Olin filed a Notification of Hazardous Waste Activity listing activity as both a generator and TSD. Wastes generated at the site included F002, F003, F005, U239, U002, U013, U133, U154, U196, D002.

On September 28, 1980 the U.S. EPA supplied the Joliet facility with a hazardous waste identification number: ILD049809379.

On November 17, 1980 Olin filed a Part A Application with the U.S. EPA listing SO2 (waste tanks), TO3 (incinerator) and SO1 (containers) holding the following wastes: KO54, DO01, DO02, FO02, FO03, FO05, U239, U002, U133, U154, U196, U013. Olin stated that no waste is normally generated at the Joliet facility, but products may be considered a hazardous waste if they are spilled or become off-specification.

TABLE 1

OLIN WASTES, BY CHEMICAL COMPOSITION AND HAZARDOUS WASTE CODE

Hazardous Material Waste Code:	Chemical/Material
Characteristic waste D001	grease/petroleum distillate sodium permanganate solution waste flammableliquid waste oxidizer waste acid waste alkaline waste paint related material waste perchloric acid waste hydrogen peroxide
Characteristic waste D002	waste lab acid waste ammonium hydroxide sodium hydroxide sodium silicate sodium & potassium silicates diethylethanolamine
Characteristic waste D003	Reactive
Characteristic waste D004	Arsenic
Characteristic waste D005	Barium
Characteristic waste D006	Cadmium
Characteristic waste D007	Chromium
Characteristic waste D008	Lead
Characteristic waste D009	Mercury
Characteristic waste D010	Selenium
Characteristic waste D011	Silver
Characteristic waste D014	Methoxychlor
Characteristic waste D018	Benzene (oil and paint thinner)
Listed waste F002	1,1,1 trichloroethane
Listed waste F003	Xylene
Listed waste F005	Methyl ethyl ketone
Lab waste P012	Arsenic oxide

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	Hazardous Material	
+88	Waste Code:	Chemical/Material
	Lab waste P018	Brucine
(•	Lab waste P022	Carbon disulfide
4 B	Lab waste P048	2,4-Dinitrophenol
	Lab waste P098	Potassium cyanide, phenol, lead compounds
••	Lab waste P106	Sodium Cyanide
	Lab waste P119	Vanadic acid, ammonium salt arsenic, lead, and mercury compounds, p-nitrophenol, ammonium metavanadate, brucine 2,4-dinitrophenol, ammonium vanadate
_	Lab waste P120	Vanadium oxide
•	Lab waste U002	Acetone
11.0	Lab waste U003	Acetonitrile (I,T)
	Lab waste U044	Chloroform
•	Lab waste U051	Creosote
14	Lab waste U122	Formaldehyde
	Lab waste U133	Hydrazine (R,T)
H 🗖	Lab waste U134	Hydrofluoric acid (C,T)
	Lab waste U144	Lead acetate
18	Lab waste U154	Methanol (I)
10	Lab waste U169	Nitrobenzene (I,T)
	Lab waste U170	p-Nitrophenol
t i	Lab waste U188	Phenol
	Lab waste U189	Phosphorus sulfide (R)
1.1	Hazardous Material Waste Code:	Chemical/Material
1.1	Lab waste U196	Pyridine

Methane, tetrachloro-
Ethane, 1,1,1-trichloro-
Echane, 2/2/-
Xylene
atam a
Chrome
Asbestos
•••

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On November 19, 1980 the U.S. EPA conducted a RCRA Inspection on Interim Status Standards for Treatment, Storage, and Disposal Facilities, Generators, and Storage facilities. The inspectors found no wastes on-site during the inspection.

On December 19, 1980 the U.S. EPA sent a letter to Olin with an attached copy of the inspection report of 11-19-80.

On March 11, 1980 the U.S. EPA sent a Notification of Violation letter to Olin listing the following violations to be corrected:

- 1) No formal inspection plan
- 2) No inspection log or summary of malfunctions, errors, discharges, etc.
- Personnel training records did not include job title, description of training, record of training as related to hazardous waste.
- 4) The contingency plan did not include a list of all emergency equipment at the facility.
- 5) The contingency plan did not include an evacuation plan.

On March 27, 1981 Olin replied to the Notice of Violation by justifying apparent violations and stating they were in compliance.

On July 1, 1981 a U.S. EPA communication with Olin eliminated the SO2 filing from the original Part A filing.

On January 28, 1982 Olin applied for a permit with IEPA to develop and operate a TSD listing F002, F003, F005, U013.

February 11, 1982 the IEPA conducted a pre-development inspection for operating a TSD and noted that the storage areas were already in existence.

On April 5, 1982 the U.S. EPA sent an Interim Status Acknowledgement to Olin stating that the Part A Application is complete and that Olin is the owner or operator of a hazardous waste management facility.

On April 27, 1982 the IEPA granted a development permit for a waste management facility to store special wastes with several conditions for Olin to follow during development.

On May 5, 1982 Olin requested an operating permit for the Hazardous Waste Storage Area from IEPA.

On May 18, 1982 the IEPA notified the Village of Rockdale that Olin has requested an operating permit for a Hazardous Waste Storage Area and solicited comments.

On June 18, 1982 the IEPA granted an operating permit to Olin for a Hazardous Waste Storage Area with all the standard conditions applying.

On July 28, 1983 Olin notified both the IEPA and U.S. EPA that M.S. Davenport was the authorized signatory for RCRA and NPDES Permitting Programs at the Olin - Joliet plant.

On September 19, 1983 Olin notified the IEPA of the following amendments to its permit:

- An updated list of waste generated including F002, F003, F005, U013 and D009 (listed as the result of a spill on-site).
- 2) A more thorough description of the Lab packs including P106, P098, P120, U189, U051, D005, U122, U170, U169, P119, D007.

On September 22, 1983 Olin notified the U.S. EPA of revisions in its Part A Application.

On January 9, 1984 the U.S. EPA requests a formal Part A withdrawal from Olin for the Joliet facility.

On January 23, 1984 Olin responded to the U.S. EPA letter of 1-9-84 and formally requested a withdrawal of their Part A Application due to the small quantity generator exclusion.

On February 29, 1984 the U.S EPA requested additional information from Olin in support of the Part A Application withdrawal request. The U.S. EPA was interested in wastes generated of acute toxicity including: sodium cyanide, potassium cyanide, and vanadium oxide.

On March 28, 1984 Olin informed the IEPA that because IEPA was handling facility closures it was submitting the information requested in the U.S. EPA letter of 2-29-84 to IEPA along with a closure plan for the storage area. Olin also informed IEPA that the initial S02 (tank storage) from the original notification was never built and was deleted from the application on 7-1-81.

On March 11, 1986 IEPA informed Olin of a discrepancy in generator codes used by OLIN. IEPA records show a waste stream permit code of 1970450010. Evidently Olin used 1970455012.

On November 25, 1986 Olin informed the U.S. EPA that the PCB storage area had ceased operations. All PCB items were removed and storage pans decontaminated.

On January 23,1989 the IEPA informed Olin that in June 1989 the permit for special waste disposal, treatment, or storage would expire.

On February 11, 1991 the IEPA sent a reminder of new rules (9-18-90) for governing design and operation of all new and existing landfills. Landfills must notify by 3-18-91 when they will close.

On February 27, 1991 Olin responded to the IEPA letter of 2-11-91 stating that the Landfill Notification did not apply to Olin.

On April 30,1991 Olin informed the IEPA of the transfer of Olin's industrial phosphate business to Albright and Wilson Americas, its phosphate joint venture partner. During the transition period, the Joliet plant will be temporarily inactive. Olin will continue to operate its waste water treatment facility during the time that the plant is inactive.

On May 2, 1991 the IEPA issued a NPDES permit for discharges from the plant.

On May 9, 1991 Olin petitioned the Illinois Pollution Control Board for a variance of regulations covering air emissions and when certain modifications need be completed for the plant as operations of certain scrubbers will be discontinued for an unknown period of time. The variance (PCB 89-72) was granted provided that OLIN followed the stipulations of the Order.

On June 29, 1991 Olin submitted an EPA Form R (Toxic Chemical Release Reporting) to the IEPA. Olin also informed the IEPA that the facility ceased production operations in June, 1991 with the exception of the SWTF.

On August 2, 1991 the IEPA accepted a biomonitoring plan pertaining to the OLIN Waste Water Treatment Plant. The plan was submitted by Olin on July 12, 1991.

On February 21, 1992 Olin filed a 1991 Illinois Hazardous Waste Report with the IEPA for the Olin facility. In the comments section, Olin stated that the plant in Joliet ceased production in June, 1991. As a result of the shut down and subsequent removal of raw or obsolete materials, the Joliet plant would be a large quantity generator of hazardous waste. Olin also stated that they expect to revert to small quantity generator status again in 1993. The only remaining activity occurring at the facility is the operation of the storm water treatment plant. Wastes shipped off-site included: waste oil and water containing 1,1,1 trichloroethane (F001), grease/petroleum distillate (D001), oil and paint thinner (D018), sodium permanganate solution (D001), waste lab acid (D002), and lab packs (P012, P018, P022, P048, P098, P119, P120).

On February 24, 1992 Olin filed a Tier Two Emergency and Hazardous Chemical Inventory Form for the Joliet facility. Olin also stated that the form for the 1992 year would be

substantially different due to plant operations ceasing in June, 1991.

On April, 1992 Olin submitted a Spill Prevention and Countermeasure Plan for the Joliet facility to the IEPA.

On December 15, 1992 IEPA informed the U.S. EPA that it was withdrawing the variance of May 9, 1991 docketed as PCB 89-72 for the Olin facility as the variance had expired, no request for extension had been requested, and the plant had been shut down. (See Table 2 for the current status of all SWMUs.)

No other violations or environmental permits are known to be held by the Zone 17 facility.

TABLE 2

BOLID WASTE MANAGEMENT UNITS (SWMUS)

OLIN CORPORATION JOLIET PLANT

SWMU #	Description	RCRA Hazardous Waste Unit*	<u>Status</u>
SWMU #1:	Waste Oil Storage Area	N	Inactive**
SWMU #2:	Empty Drum Storage	N	Inactive**
SWMU # 3:	Lab Pack Storage Area	Y	Inactive**
SWMU #4:	PCB Storage Area	N	Closed
SWMU # 5:	Spent Solvents Storage Area	Y	Inactive**
SWMU #6:	Baghouses and Bags	N	Inactive**
swmu #7:	Hazardous Waste Storage Building #1 - 120' x 18'	Y	Closed
SWMU #8:	Hazardous Waste Storage Building #2 - 20' x 26'	Y	Closed
SWMU #9:	Sewage Treatment Sludge	N	Inactive**
SWMU #10:	Sodium Phosphate Ponds	N	Active
SWMU #11:	Storm Water Treatment Facility	N	Active

Notes:

^{*} A RCRA hazardous waste management unit is one that currently requires a RCRA permit.

^{**} The plant was shut down in June 1991 and is currently inactive. No units have been RCRA closed.

2.5 ENVIRONMENTAL SETTING

The following sections describe the local climate, soils, surface waters, geology and hydrogeology in the area of the site.

2.5.1 Climate

The climate of Madison County can be classified as continental and is characterized by the marked changes in weather common to the latitude and to the interior of a large land mass. In winter (December, January, February) the average temperature is 31 degrees Fahrenheit, and the average daily minimum temperature is 23 degrees. In summer (June, July, August) the average temperature is 77 degrees, and the average daily maximum temperature is 87 degrees. (USDA, 1982)

The average annual precipitation is about 32 inches, with 67 percent usually falling in April through September. The one year, twenty-four hour rainfall figure for this region is 2.5 inches (Rainfall Frequency Atlas of the U.S., 1963). Thunderstorms occur approximately 37 days each year, most occurring in the summer months, and result from storms from the west and southwest. Average seasonal snowfall in 39 inches. The mean annual lake evaporation in this area is 30 inches. (Climate Atlas of the U.S., 1968). The prevailing wind is from the west in winter and south in the summer.

2.5.2 Area Soils and Surface Waters

The natural soils in the area consist of Blount silt loam, 2-4% slopes, Rodman gravelly loam, 12-30% slopes, Nappannee silt loam, 2-4% and 4-7% slopes, Bryce silty clay, Plattville silt loam, 2-4% slopes, Chatsworth silty clay, 12-30% slopes, Channahon silt loam, 0-2% and 2-4% slopes, Romeo silt loam, and Sogn loam, 12-30% slopes. These soils are nearly level to steeply sloping, somewhat poorly drained and well drained soils that are moderately permeable throughout (USDA, 1979).

Blount silt loam is nearly level, somewhat poorly drained soil on low ridges and in shallow depressions and drainageways on uplands. Some areas of this soil are artificially drained. In undrained areas or where construction has disrupted drainage, the water table is a depth of 1 to 3 feet during the wet seasons. Water and air movement through this soil is slow, and surface runoff from cultivated areas is slow. This soil has a severe limitation for buildings because of wetness (USDA, 1979).

Rodman gravelly loam is excessively drained, steep soils on side slopes along stream channels and morainic ridges. Water and air capacity through these soils is very rapid, and surface runoff is medium (USDA, 1979).

Nappannee silt loams are nearly level and gently sloping, somewhat poorly drained soil on low ridges and knolls of glacial

till plains and tops of broad moraines on uplands. In undrained areas or in areas where systems have failed, a periodic water table is at a depth of 1 to 2 feet during the wet season. Water and air movement through this soil is very slow, and surface runoff from cultivated areas is medium. Tile drains do not function well, but narrow spacings and porous filters can be used to help improve drainage in wet spots (USDA, 1979).

Bryce silty clay is a nearly level, poorly drained soil on upland flats and in depressions and drainageways. It is occasionally flooded for a long period in spring. Many areas of this soil are artificially drained by drainage tile and to a lesser extent by surface ditches or sewer systems. In undrained areas or in areas where drainage systems have been damaged by construction, a water table is a depth of 1 foot or less during wet seasons. Water and air movement through this soil is slow, and surface runoff from cultivated areas is slow to ponded (USDA, 1979).

Plattville silt loam is well drained and formed in glacial drift over limestone uplands. Drainage may be needed in some areas (USDA, 1979).

Chatsworth silty clay is strongly sloping, moderately well drained soil on severely eroded side slopes of ridges and knolls in rolling morainal areas. Water and air movement through this soil is very slow, and surface water runoff from cultivated areas is rapid (USDA, 1979).

Channahon silt loam consists of shallow, well and moderately well drained soils thinly formed in loamy drift over limestone on uplands (USDA, 1979).

Romeo silt loam is very shallow, nearly level soil on flood plains and water swept beaches along the Des Plaines River. It is frequently flooded for brief periods each spring. Most areas of this spoil appear to be poorly drained, but drainage is difficult to assess because of the thin soil. Underlying this is light gray, very hard limestone. The water table is at a depth of 1 foot or less during the wet seasons, and more areas are flooded by runoff from higher slopes. Water and air movement through this soil is moderate and surface water runoff from cultivated areas is slow (USDA, 1979).

Sogn loam consists of shallow and very shallow, somewhat excessively drained soils formed on residuum weathered mainly from limestone on uplands (USDA, 1979).

The Olin facility is situated along the bluffs overlooking the Des Plaines River. As a result the eastern and western edges of the property are relatively flat and for this reason water collects in puddles and pools when it rains. The plant is located between two slope areas that create a transition zone between the flat uplands and the Des Plaines River.

The closest surface water bodies in the facility vacinity are fresh water wetlands on-site and the Des Plaines River, adjacent to the facility to the west. The facility is not located in a flood prone area or within the 100 year flood plain.

Surface runoff from the facility is directed through three ponds on-site; The south pond, north pond and west pond. west pond handles all storm water runoff from the west side of the facility as well as water from the phosphate ponds and gypsum All water directed to the west pond is processed through the Olin Storm Water Treatment Facility (SWTF) prior to discharge into the Des Plaines River. The south pond and north pond are connected by a drainage ditch and culvert. Storm water from the eastern edge of the facility flows from the south pond to the north pond which discharges to the Des Plaines River. discharge the water is analyzed. If any contaminants are found in water contained in the north pond, the outfall is diverted to the west pond. Outfalls from the ponds and SWTF are permitted by NPDES permits. (See Appendix C for laboratory analyses of the north pond and gypsum pile.)

2.5.3 Area Geology and Hydrogeology

Topographic features in the area of the site are a result of both glacial deposition and erosion. Moraines, and hilly ridges, composed of till deposited by glacial ice are conspicuous topographic features in Will County (Illinois State Water Survey, 1976). The Olin facility is adjacent to the Des Plaines River along the bluffs that mark the transition between the upland lake plains and the river valley.

The upland plains are a result of glacial outwash and lake deposition. The result is large flat plains underlain by till. This till averages a depth of 20 feet over approximately 75% of the county. It is composed of unsorted debris consisting of pebbles, cobbles, and boulders embedded in a matrix of clay, silt, and sand, deposited by glacial ice (Illinois State Water Survey, 1976).

The Des Plaines River is a major transportation route between the Great Lakes and the Mississippi River. Barge traffic makes the Des Plaines River one of the busiest in the country as large quantities of grain, soybeans, coal, oil, chemicals, and mineral products are transported each year. In addition, several rail lines take advantage of the easy valley grade in routing track out of Chicago to the west and south (Illinois State Water Survey, 1976).

Will County is unique among the five counties that make up northeastern Illinois in that bedrock lies very near the surface and in many places is exposed at the surface. Bedrock outcrops in several locations on the OLIN facility property. This bedrock is Silurian age dolomites. The dolomite is suitable for use in the making of construction aggregate, and building stone.

Quarrying in the area of the OLIN facility often includes sand and gravel production as the sand and gravel overlie the bedrock (Illinois State Water Survey, 1976).

Will County obtains all its drinking and industrial water from groundwater resources. There are two main aquifer systems that are developed in the county - a shallow system and a deep system. The shallow aquifer is the uppermost water-bearing unit and is located approximately 20 feet below grade. It consists of the shallow Silurian dolomites and the associated sand and gravel deposits in the overlying glacial drift. A majority of public and private wells use the shallow Silurian dolomite. capable of yielding moderate to large quantities of water. deep aquifer consists of sandstone and dolomite formations of Cambrian and Ordivician Ages. Almost all of the industrial plants along the Des Plaines Valley obtain their water from the deep sandstone aquifers because they contain greater quantities of water. (Illinois State Water Survey, 1976). Olin groundwater wells use the deep aquifer and range from 1200 - 1700 feet in depth. Groundwater and surface water flow is believed to be in a westerly direction, towards the Des Plaines River in the area of the facility.

2.6 RECEPTORS

The Olin facility is located in a mixed industrial and agricultural area. The facility is fenced with a 24-hour monitored gate. A phone and electronic control system are located at the gate. Commonwealth Edison maintains a power plant immediately north of the facility and Chem Waste Management operates a hazardous waste landfill immediately to the south. Residences in the area are adjacent to the facility on the south and east. These residences are approximately 700 feet south and 1,000 feet east of the phosphate ponds. Farmland adjoins the facility to the east and south with the Des Plaines River to the west. A major rail line lies between the river and the facility. Other residences, industry, and agricultural land are located within a four mile radius of the facility.

The highest concentration of residences is to the northwest, north, and northeast. Prevailing winds are from the west in the winter and south in the summer. Therefore the predominant downwind direction in the summer is in the direction of area residents. No reports of hazardous odors have been reported.

The nearest surface water bodies are fresh water wetlands on-site and the Des Plaines River adjacent to the facility to the west. The Des Plaines is a major transportation corridor in the central U.S. as well as a popular recreation source and tourist attraction.

Sensitive environments in the vicinity of the facility include on-site freshwater wetlands (larger than two acres) and sensitive habitats for endangered species. Sensitive habitat for

the Bald Eagle is situated adjacent to the facility along the Des Plaines River. Sensitive habitats for the Indian Bat, Lakeside Daisy, and Prairie Clover are found within a four mile radius of the facility.

Wells for nearby residences are located adjacent to the facility on the south and within 1/4 mile to the east. These wells have an average depth of approximately 100 - 150 feet and draw from the shallow Silurian dolomite aquifer. The facility operated 6 deep aquifer wells ranging in depth from 1,250 - 1,700 feet. Water from these wells was used for drinking, process, and sanitary uses until 1977. At that time, the plant began to recycle process water and drinking fountains in the facility were replaced with bottled water. At present, only one of these wells is used to supply the SWTF with sanitary and process water. A 300,000 gallon water tower is located on site and was used for emergency backup. At the time of inspection the tank was empty.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes in detail the SWMUs identified during the PA/VSI. It includes a description of the waste unit, dates of operation, wastes managed, release controls, release history, and observations. (See Figures 3 & 4 for SWMU/AOC locations & Appendix A for photographs of SWMUs and AOCs. Appendix D contains waste manifests.)

SWMU #1: Waste Oil Storage Area

Unit Description: Waste oil was stored in a 8000 - 10,000

gallon tank at the southwest corner of the TEOX Building. The tank is inside a diked area and is marked as a container of waste oil only. Prior to 1980, oil was drummed at

various locations in the facility and

transported off-site.

Date of Start up: 1980.

Date of Closure: The unit became inactive in August 1991.

Wastes Managed: Waste oil was generated from pumps, gear

reducers and fork lifts in the plant.

Release Controls: The unit is located on the concrete

foundation of the building and the area

around the tank is diked.

History of Release: No releases have been documented or reported.

Observations: SWMU was in good condition and empty at the

time of inspection. Waste oil was shipped

off-site for energy recovery.

SWMU #2: Empty Drum Storage

Unit Description: These drums are made of steel and polystyrene

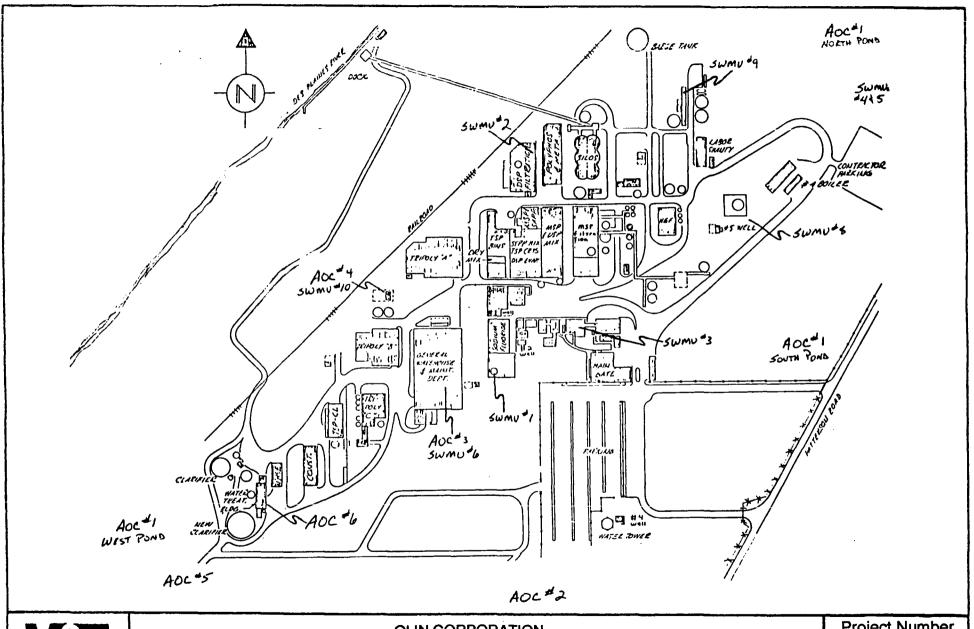
and contained virgin products. These

products included oils, acids, and solvents which were used in various plant processes. When the drums were empty they were washed out and stored prior to reuse or shipment off-site. Washing was done at the old 55 building now listed as DSP Filtration. Prior to 1982, drum cleaning was done at various locations throughout the plant. Rinse water drained to the facility's recycled process

water system.

Date of Start up: 1982.

Date of Closure: The unit became inactive in 1991.



Metcalf & Eddy

OLIN CORPORATION FACILITY LAYOUT SWMUs/AOCs JOLIET, ILLINOIS

Project Number 153068-1-626

Figure 3

Wastes Managed: Product residues from drums.

Release Controls: Drum washing occurred on a concrete floored

area. The area drains to the facility

recycled process water system.

History of Release: No releases have been documented or reported.

Observations: SWMU was inactive at the time of inspection.

Some staining on the walls and floors in the former SWMU area was noted, but the origin of

the stains is unknown.

SWMU #3: Lab Pack Storage Area

Unit Description: Lab chemicals and reagents for product

analysis were stored in a small closet on the second floor of Building #2 in the process tech area. The storage closet was marked as a storage area and the doorway was diked to

prevent release to the building.

Date of Start up: The first evidence of operations at the

facility was a Permit A Hazardous Waste Facility Application dated August 18, 1980. However, interviews with facility employees indicate that this SWMU operated prior to

1980.

Date of Closure: The unit became inactive in July 1991.

Wastes Managed: Lab reagents and chemicals.

Release Controls: Storage area is a closet inside a building,

enclosed behind a locked door and is diked. All materials were left in their original bottles and containers. Prior to transport off-site, materials were packed in 1/2 barrel containers with chem-dry as packing material.

History of Release: No releases have been documented or reported.

Observations: SWMU was empty at the time of inspection. No

signs of staining or releases were observed. The building in which the SWMU is located is

now closed and locked.

SWMU #4: PCB Storage Area

Unit Description: PCB contaminated oil was transferred from

facility transformers and motors in this area for shipment off-site. PCB contaminated oil drained into steel pans which was in turn transferred to a 55-gallon steel drum prior to shipment for disposal. The SWMU was located in a small building separate from the manufacturing facility.

Date of Start up: 1984.

Date of Closure: 1987.

Wastes Managed: PCB contaminated oil.

Release Controls: Transformers and motors were placed in metal pans on a concrete pad inside the building. PCB contaminated oil was then transferred

from the pans to 55-gallon steel drums.

History of Release: No releases have been documented or reported.

Observations: Pans were clean and empty at the time of inspection and the building was fenced and locked. Ponded water surrounded the building

at the time of inspection.

SWMU #5: Spent Solvents Storage Area

Unit Description: Spent solvents and paint waste were placed

into a 55-gallon steel drum located in the Maintenance and Warehouse Building. A parts washer was also located at this location. Accumulated spent solvents were transported

within 90 days by Chem Waste Management.

Date of Start up: The first evidence of operations at the

facility was a Permit A Hazardous Waste Facility Application dated August 18, 1980. However, interviews with facility employees indicate that this unit was operated prior to

1980.

Date of Closure: The unit became inactive in December 1992.

Wastes Managed: Spent solvents including 1,1,1

trichloroethane, methylene chloride, benzene, and carbon tetrachloride including some paint

waste.

Release Controls: Solvents were contained inside a 55-gallon

steel drum stored on a concrete slab inside the warehouse building. Building floor

drains are connected to the facility recycled

process water system.

History of Release: No releases have been documented or reported

Observations:

All spent solvents had been removed from the

facility at the time of inspection.

SWMU #6:

Baghouses and Bags

Unit Description:

Each of the phosphate manufacturing buildings contain vertical separators to remove phosphate dust from exhaust air. baghouses and associated bags collected phosphate dust which was then recycled back into the phosphate manufacturing process.

Date of Start up:

1926.

Date of Closure:

The unit became inactive in 1991.

Wastes Managed:

Phosphate dust.

Release Controls:

23 steel bag houses and three kinds of bags (dependent on temperature of process) used to connect baghouses to augers that reintroduced the dust into the phosphate manufacturing process. All baghouses are located inside of buildings. Any material released inside the buildings is swept up and recycled back into the facility processes. During its operation, respirator use was mandatory to prevent inhalation of phosphate dust.

History of Release: During its operation, constant releases occurred from the baghouses resulting with very fine grained dust remaining in suspension in exhaust air. It was the responsibility of several plant personnel to sweep up released dust which was then recycled back into the plant process.

Observations:

At the time of inspection there was a fine phosphate powder dust covering almost all of the floors in phosphate manufacturing buildings at the plant. Dead pigeons were observed in some buildings during the VSI. When the plant closed, the dust settled out of suspension and accumulated on floors and walls. In at least one area, the dust was several feet thick. Several locations in buildings on-site had signs noting that respirators were required when the plant was in production. This dust is routinely swept up and placed into the phosphate ponds onsite for recycling as fertilizer.

SWMU #7: Hazardous Waste Storage Pad #1

Unit Description: This unit consists of a diked concrete pad,

measuring 120 x 18 feet and is located

outside. When Olin originally filed a Part A

Application as a TSD, this area was designated as a potential storage site. Although no hazardous wastes were stored at this unit, it was treated as a hazardous waste management unit in past regulatory

correspondence with the IEPA and it could be used for such purposes by future operators.

Date of Start up: 1980.

Date of Closure: 1986.

Wastes Managed: No hazardous wastes were ever stored at this

location.

Release Controls: The unit consists of an outdoor, diked

concrete pad

History of Release: No releases have been documented or reported.

Observations: The storage area was in good condition at the

time of inspection and is currently closed.

SWMU #8: Hazardous Waste Storage Pad #2

Unit Description: This unit consists of a diked concrete pad,

measuring 20x26 feet and is located outside.

Date of Start up: 1980.

• 10

Date of Closure: 1986.

Wastes Managed: Lab packs, and mercury and mercury

contaminated clothing from a spill at the

facility in 1983.

Release Controls: The unit consisted of diked concrete pad and

wastes managed there were in a sealed steel

drum.

History of Release: No releases have been documented or reported.

Observations: SWMU was in good condition at the time of

inspection and is currently closed.

swmu #9: Sewage Treatment Facility & Sludge

Unit Description: Starting in the mid 1960s, the Olin Sanitary

Treatment Facility managed sanitary waste

water from the facility. Incoming wastes were biologically treated. The sludge was routinely transported by truck to the Elwood Sanitary Sewage Plant by Vanderhyden Septic for processing with Elwood activated sludge. The effluent was chlorinated prior to discharge to the Des Plaines River.

Date of Start up:

An exact date for start up could not be obtained. Facility representatives estimate that the unit began operation in 1965.

Date of Closure:

The unit became inactive in 1991.

Wastes Managed:

Sanitary sewer sludge.

Release Controls:

No release controls are known.

History of Release: No releases have been documented or reported.

Observations:

The sanitary sewer plant is no longer operating. All sludges had been removed at the time of inspection.

SWMU #10:

Sodium Phosphate Ponds

Unit Description:

Three sodium phosphate ponds called Total Retention Ponds #1, #2, #2A (TRP 1, TRP 2, TRP 2A) handle process waste water from the plant. Phosphate material in the process waters settle out in these ponds and is then recycled as fertilizer material. TRP #1 is 35 acres in size. Until 1971 it was a total retention pond as any by-product from plant processes were pumped there. Water from TRP #1 is pumped to the gypsum pile where it filters through and is then treated at the SWTF. It is permitted as an inorganic holding reservoir holding sodium phosphates. TRP 2 is a 31 acre sodium phosphate pond being mined for phosphates for permitted fertilizer supplements. TRP 2A is a 7 acre pond for SWTF clarifier sludge. It may be used as a fertilizer supplement. Water from these ponds is processed through the SWTF prior to discharge into the Des Plaines River. If necessary, the water can be pumped to the gypsum pile prior to processing by the SWTF.

Date of Start up:

TRP #1, 1970; TRP #2, 1973; TRP #2A, 1983.

Wastes Managed:

Phosphate material in the recycled process waters and sludges from the SWTF.

Release Controls: Ponds are bermed and lined with a five foot clay layer.

History of Release: No releases have been documented or reported.

Observations: The ponds were in good condition at the time of the VSI. About, three to five feet of

water was in the ponds with approximately four feet of free board to the top of the berms. Phosphate mining is currently being

handled by an outside contractor.

SWMU #11: Storm Water Treatment Facility

Unit Description: The Storm Water Treatment Facility (SWTF) was

built in 1979 and treats water from the west pond, phosphate ponds and the gypsum pile prior to discharge to the Des Plaines River. Sulfuric acid and lime are used to adjust pH and a flocculant is added to precipitate any solids from the water prior to discharge.

Sludge from the SWTF is pumped to TRP #2A.

Date of Start up: 1979.

Wastes Managed: Storm water runoff from the storm water

runoff ponds, phosphate ponds, gypsum pile, and facility grounds. The SWTF also manages phosphate sludges which are pumped to TRP

#2A.

Release Controls: The SWTF was built on a concrete slab and a

majority of the unit is indoors.

Mistory of Release: No releases have been documented or reported.

Observations: The SWTF was in operation at the time of the

VSI and was in good condition.

4.0 AREAS OF CONCERN

Twelve AOCs were identified during the PA/VSI(See Figures 3 & 5 for AOC locations):

AOC #1:

3 Ponds for Storm Water Runoff

Description:

Three ponds on the facility property collect storm water runoff. The three ponds are designated as south, north, and west. south and north ponds collect storm water runoff from the east side of the facility. A storm water drainage ditch/culvert runs across the site from the south pond to the north pond on the east side of the site. north pond has two outfalls. One is to the Des Plaines River and the other is to the west pond. Typically the north pond discharges to the river. This water is analyzed for pH, phosphate alkalinity, total alkalinity, total hardness, calcium, magnesium, chlorine, sulfate, silica, conductivity, sodium, fluoride, total soluble inorganic phosphate, soluble ortho phosphate, and soluble poly phosphate. If water discharging from the north pond fails any of these tests, it can be pumped to the west pond where it is treated by the SWTF prior to discharge. Surface water runoff from the west side of the facility (which includes most of the production buildings), phosphate ponds, and gypsum pile enters the storm sewer which runs to the west pond prior to treatment at the Storm Water Treatment Facility. The water is then treated and discharged into the Des Plaines River. permits cover both the north pond outfall and the Storm Water Treatment Facility outfall.

AOC #2:

Clean Solvent Storage Area.

Description:

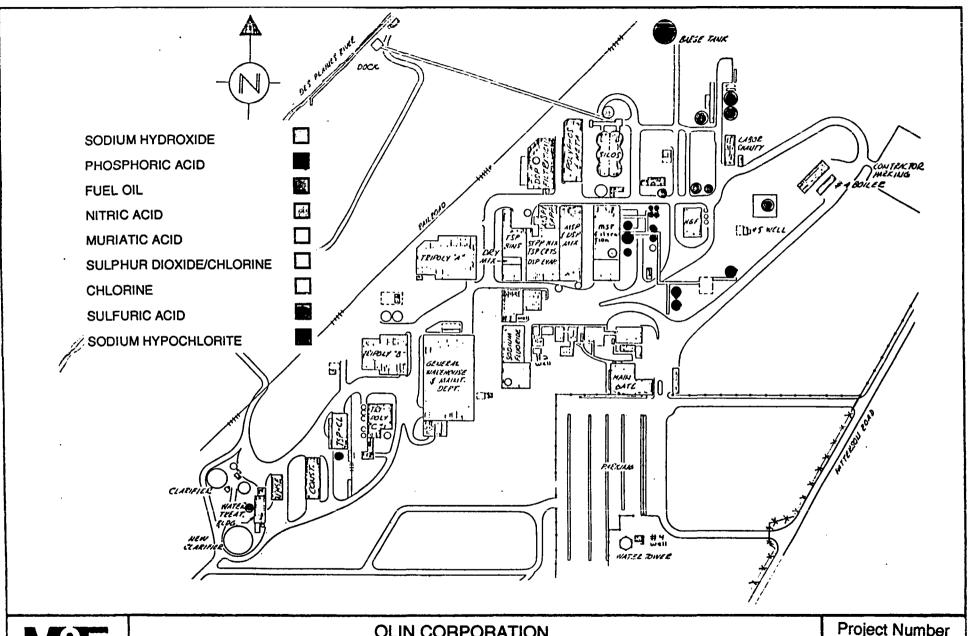
The clean solvent storage area was located in the Maintenance & Warehouse building and contained virgin solvents, paints, turpentine, and oil.

AOC #3:

Gypsum pile

Description:

The gypsum pile is a 200 acre site and was built in 1959 for the phosphoric acid plant. Applying sulfuric acid to the gypsum pile generates phosphoric acid which was used manufacture various phosphates. Presently, water is applied to the pile to keep it wet



Metcalf & Eddy

OLIN CORPORATION AOCs #7 -#15 JOLIET, ILLINOIS Project Number 153068-1-626

Figure 5

and maintain its stability. Water flow through the pile is treated at the SWTF prior to discharge to the Des Plaines River.

pile was closed in 1985.

AOC #4: **Sodium Hydroxide Tanks**

Two tanks contained sodium hydroxide used in Description: the production of phosphates. One tank is located outside on a diked concrete pad. The

other tank is located inside the Monosodium Phosphate filtration building and is also surrounded by diking. The tanks were empty

at the time of the VSI.

AOC #5: Phosphoric Acid Tanks

Description: Thirteen tanks contained phosphoric acid used

in the production of phosphates. All tanks are located on concrete pads and are

surrounded by either diking or earthen berms. The tanks were empty at the time of the VSI.

AOC #6: Fuel Oil Tank

One fuel oil tank is located at the facility. Description: It contained type C diesel fuel as a backup

fuel for the natural gas fired boiler #4 and the High Grade Fertilizer plant. The tank is on a concrete pad surrounded by an earthen The tank was empty at the time of the berm.

VSI.

AOC #7: Nitric Acid Tank

One tank located inside the DSP Filtration Description:

> building supplied nitric acid used in the production of phosphates. The tank is inside the building and is on a diked concrete pad.

The tank was empty at the time of the VSI.

Muriatic Acid Tank AOC #8:

One tank contained muriatic acid for the Description:

production of phosphates. It is located outside the Monosodium Phosphate & Disodium Phosphate Mixing building on a diked concrete The tank was empty at the time of the

VSI.

Sulfur Dioxide & Chlorine Cylinders AOC #9:

Several 1 ton cylinders of sulfur dioxide and Description:

chlorine used in the production of phosphates

were stored in a shed on the west side of the DSP Filtration building. The shed has a concrete foundation. No tanks were observed in the area during the VSI.

AOC #10:

Chlorine Tank

Description:

A railroad tank car of chlorine was used in the production of chlorinated trisodium phosphates. The car was located on tracks outside the TSP CL building and had no secondary containment. The tank car had been removed at the time of the VSI.

AOC #11:

Sulfuric Acid Tanks

Description:

Seven sulfuric acid tanks are located at the facility. Acid stored in these tanks was used in the production of phosphates or in the treatment of storm water runoff. All tanks are located on concrete pads and are surrounded by concrete diking or earthen berms. The tanks were empty at the time of the VSI with the exception of one tank used by the SWTF.

AOC #12:

Sodium Hypochlorite Tank

Description:

One tank contained sodium hypochlorite for the production of phosphate. It is located outside the TSP CL building on a diked concrete pad. The tank was empty at the time of inspection.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified 11 SWMUs and 12 AOCs at the Olin Corporation facility in Joliet, Illinois. The following are Metcalf and Eddy's conclusions and recommendations for each SWMU and AOC. (See Table 3 for a summary of suggested further actions for all SWMUs and AOCs.)

SWMU #1: Waste Oil Storage Area

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The waste oil storage area is indoors, on a curbed concrete pad. At the time of inspection the storage tank

was empty.

Recommendations: M&E recommends no further action at this

time.

SWMU #2: Empty Drum Storage

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The waste drum

storage area is indoors, on a curbed concrete

pad. This pad drains to the facility

recycled process water system. At the time of inspection there were no drums in the

storage area.

Recommendations: M&E recommends no further action at this

time.

SWMU #3: Lab Pack Storage Area

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The unit is indoors, on a curbed concrete pad. At the time of

inspection the unit was empty.

Recommendations: M&E recommends no further action at this

time.

SWMU #4: PCB Storage Area

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The unit is located in a small building that provided an indoor collection point for PCB contaminated oil from facility transporters. PCB contaminated

oil was drained from the transformers onto a steel pan which was situated on a concrete pad. The waste was then drained into a 55-gallon steel drum prior to shipment off-site. The building is fenced and locked to prevent unauthorized entry. At the time of inspection the building was in good condition

and the transfer pans were empty.

Recommendations: M&E recommends no further action at this

time.

SWMU #5: Spent Solvents Storage Area

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air

from this unit is low. The waste oil storage area is indoors, on a curbed concrete pad. At the time of inspection all spent solvents had been removed and the unit was inactive.

Recommendations: M&E recommends no further action at this

time.

SWMU #6: Baghouses and Bags

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is moderate. Most of the baghouses are indoors. Baghouses on roofs of buildings had shelters built over them. At the time of inspection all baghouses were inactive. However, there was phosphate dust at each of the baghouse locations. While this dust seems to be a hazard only to pigeons that get into facility buildings, a release from one of the buildings could

contaminate area groundwater.

Recommendations: M&E recommends that Olin remove residual

phosphates at all of the baghouse sites.

SWMU #7: Hazardous Waste Storage Pad

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air

from this unit is low. The unit is outdoors, on a curbed concrete pad. At the time of

inspection the unit was empty.

Recommendations: M&E recommends no further action at this

SWMU #8: Hazardous Waste Storage Pad

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The unit is outdoors, on a curbed concrete pad. At the time of

inspection the unit was empty.

Recommendations: M&E recommends no further action at this

time.

SWMU #9: Sewage Treatment Facility & Sludge

Conclusions: The potential for past releases to occur to groundwater, surface water, soil, and air

from this unit is moderate. The unit was outdoors, with no secondary containment. The

potential for current releases to

groundwater, surface water, soil, or air is low. At the time of inspection the unit was

inactive.

Recommendations: M&E recommends construction of secondary

containment if the plant resumes operation.

SWMU #10: Sodium Phosphate Ponds

Conclusions: The potential for a release to occur to groundwater, surface water, soil, and air

from this unit is low. The ponds are bermed

and all runoff is treated at the SWTF.

Recommendations: M&E recommends no further action at this

time.

SWMU #11: Storm Water Treatment Facility

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The majority of the unit is indoors, on curbed concrete pads. At the time of inspection the unit was working

and observed to be in good condition.

Recommendations: M&E recommends no further action at this

time.

AOC #1: 3 Ponds for Storm Water Runoff

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The ponds are bermed and west pond water is treated at the SWTF.

North and south pond runoff can be treated at

the SWTF if necessary.

M&E recommends no further action at this Recommendations:

time.

AOC #2: Clean Solvent Storage Area.

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The unit is indoors, on a concrete pad. At the time of inspection the unit had approximately 8 drums of virgin solvent, 12 drums of virgin mineral oil, and 4 drums of used oil in storage. The used oil located in the unit area was in the process

of being shipped off-site.

Recommendations: M&E recommends no further action at this

time.

AOC #3: Gypsum pile

Conclusions: The potential for a release to occur to

> groundwater, surface water, soil, and air from this unit is low. The ponds are bermed

and all runoff is treated at the SWTF.

Recommendations: M&E recommends no further action at this

time.

Sodium Hydroxide Tanks AOC #4:

Conclusions: The potential for a release to occur to

> groundwater, surface water, soil, and air from this unit is low. The tanks are

> currently empty and are situated on a diked

concrete pad.

M&E recommends no further action at this Recommendations:

time.

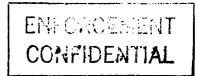
Phosphoric Acid Tanks AOC #5:

Conclusions: The potential for a release to occur to

> groundwater, surface water, soil, and air from this unit is low. The tanks are currently empty and situated on a diked

concrete pad.

Recommendations: M&E recommends no further action at this



AOC #6: Fuel Oil Tank

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The tank is currently empty and situated on a concrete pad inside a

bermed area.

Recommendations: M&E recommends no further action at this

time.

AOC #7: Nitric Acid Tank

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The tank is currently empty and situated on a diked concrete pad.

Recommendations: M&E recommends no further action at this

time.

AOC #8: Muriatic Acid Tank

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The tank is currently empty and is situated on a diked concrete

pad.

Recommendations: M&E recommends no further action at this

time.

AOC #9: Sulfur Dioxide & Chlorine Cylinders

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low due to the fact that

all tanks have been removed.

Recommendations: M&E recommends no further action at this

time.

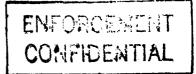
AOC #10: Chlorine Tank

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low due to the fact that

the tank car has been removed.

Recommendations: M&E recommends no further action at this



AOC #11: Sulfuric Acid Tanks

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. All but one of the tanks are currently empty and are situated on

diked concrete pads.

Recommendations: M&E recommends no further action at this

time.

AOC #12: Sodium Hypochlorite Tank

Conclusions: The potential for a release to occur to

groundwater, surface water, soil, and air from this unit is low. The tank is currently empty and is situated on a diked concrete

pad.

Recommendations: M&E recommends no further action at this

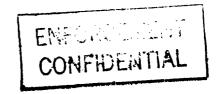


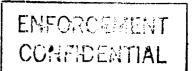
TABLE 3 SWMUS, AOCS, AND SUGGESTED FURTHER ACTIONS

10	BWMU	Operational <u>Dates</u>	Evidence of Release	Suggested <u>Action</u>
180	1	1980 to 1991**	None	None
	2	1982 to 1991**	None	None
14B	3	1980* to 1991**	None	None
.10	4	1984 to 1987	None	None
	5	1980* to 1992**	None	None
υ•	6	1926 to 1991**	None	Remove residual phosphates
· (#	7	1980 to 1986	None	None
× H D	8	1980 to 1986	None	None
	9	1965*** to 1991**	None	Secondary containment (If plant resumes operation)
·∦₿	1.0	1970 to present	None	None
-410	11	1979 to present	None	None
-11	AOC	Operational Dates	Evidence of Release	Suggested <u>Action</u>
	1.	1980 to present	None	None
H	2	1980* to present	None	None
n 4	3	1959 to present	None	None
	4	1930*** to 1991	None	None
	5	1930*** to 1991	None	None
	6	1940*** to 1991	None	None
•	7	1930*** to 1991	None	None

<u>NOC</u>	Operational <u>Dates</u>	Evidence of Release	Suggested Action
8	1930*** to 1991	None	None
9	1944*** to 1991	None	None
10	1957 to 1991	None	None
11	1942 to 1991	None	None
12	1957 to 1991	None	None

Notes:

- * The first evidence of operations at the facility was a Permit A Hazardous Waste Facility Application dated August 18, 1980. However, interviews with facility employees indicate that the units have been in operation prior to 1980.
- ** The main plant was shut down in June 1991. As a result, most SWMUs are inactive (with the exception of the Sewage Water Treatment Facility) but not RCRA closed. Final closure or SWMU status will not be clarified until the transfer of the property is completed in 1995.
- *** This indicates that this date is only an estimate by facility employees.



REFERENCES

- 1. U.S. EPA, March 27, 1980, Potential Hazardous Waste Site Identification and Preliminary Assessment for the Olin Joliet.
- 2. U.S. EPA, July 28, 1980, Potential Hazardous Waste Site Tentative Disposition for the Olin-Joliet.
- 3. Olin Corporation, August 18, 1980, Notification of Hazardous Waste Activity.
- 4. U.S. EPA, September 28, 1980, notification of Olin's hazardous waste identification number.
- 5. Olin Corporation, November 17, 1980, Part A Application.
- 6. U.S. EPA, November 19, 1980, RCRA Inspection on Interim Status Standards for Treatment, Storage, and Disposal Facilities, Generators, and Storage facilities.
- 7. U.S. EPA, December 11, 1980, Record of communication on inspection of 11-19-80.
- 8. U.S. EPA, December 19, 1980, letter to Olin with an attached copy of the inspection report of 11-19-80.
- 9. U.S. EPA, January 27, 1981, form indicating that Olin Joliet meets all necessary requirements for Interim Status.
- 10. U.S. EPA, February 19, 1981, Interoffice Communication on Olin compliance at the Joliet facility.
- 11. U.S. EPA, March 11, 1980, Notification of Violation letter to Olin.
- 12. Olin Corporation, March 27, 1981, reply to the Notice of Violation.
- 13. U.S. EPA, July 1, 1981, Communication with Olin deleting the S02 filing from the original Part A filing.
- 14. U.S. EPA, September 28, 1981, Master Facility Listing for the Joliet facility.
- 15. Olin Corporation, January 28, 1982, Application for an IEPA permit to develop and operate a TSD.
- 16. IEPA, February 11, 1982, Pre-development inspection notes.
- 17. IEPA, February 19, 1982, Memorandum on the inspection of 2-11-82.
- 18. U.S. EPA, April 5, 1982, Interim Status Acknowledgement to Olin.

- 19. IEPA, April 27, 1982, Development permit to store special wastes.
- 20. Olin Corporation, May 5, 1982, Request for an operating permit for the Hazardous Waste Storage Area from IEPA.
- 21. IEPA, May 18, 1982, notified the Village of Rockdale that Olin has requested an operating permit for a Hazardous Waste Storage Area.
- 22. IEPA, May 26, 1982, Memorandum on Pre-operation inspection was conducted at the Joliet facility on May 25, 1982.
- 23. IEPA, June 18, 1982, Letter granting an operating permit to Olin for a Hazardous Waste Storage Area.
- 24. Olin Corporation, July 28, 1983, Responses to RCRA and NPDES Permitting Programs.
- 25. Olin Corporation, September 19, 1983, notification to the IEPA of amendments to its permit.
- 26. Olin Corporation, September 22, 1983, notification to the U.S. EPA of revisions in its Part A Application.
- 27. U.S. EPA, October 6, 1983, memo to the file.
- 28. U.S. EPA, January 9, 1984, request for a formal Part A withdrawal from Olin for the Joliet facility.
- 29. Olin Corporation, January 23, 1984, response to the U.S. EPA letter of 1-9-84.
- 30. U.S. EPA, February 2, 1984, Record of communication.
- 31. U.S. EPA, February 14, 1984, Conversation Record with Olin confirming Olin's small quantity generator status.
- 32. U.S. EPA, February 29, 1984, request for additional information from Olin to support Part A Application withdrawal request.
- 33. U.S. EPA, March 1, 1984, Memo on additional information letter of 2-29-84.
- 34. Olin Corporation, March 28, 1984, response to U.S. EPA information request.
- 35. U.S. EPA, April 3, 1984, Memo on small quantity generator status of OLIN.
- 36. IEPA, On March 11, 1986, letter informing Olin of a discrepancy in generator codes used by Olin.

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- 37. Olin Corporation, November 25, 1986, informed the U.S. EPA that the PCB storage area had ceased operations.
- 38. U.S. EPA, December 10, 1986, memo on Olin Joliet's Part A withdrawal.
- 39. IEPA, January 23,1989, letter informing Olin that in June 1989 the permit for special waste disposal, treatment, or storage would expire.
- 40. IEPA, February 11, 1991, Reminder of new rules (9-18-90) for governing design and operation of all new and existing landfills.
- 41. Olin Corporation, February 27, 1991, response to the IEPA letter of 2-11-91.
- 42. Olin Corporation, April 30,1991, letter informing the IEPA of the transfer of Olin's industrial phosphate business to Albright and Wilson Americas, its phosphate joint venture partner.
- 43. IEPA, May 2, 1991, NPDES permit for discharges from the plant.
- 44. Olin Corporation, May 9, 1991, Petition to the Illinois Pollution Control Board for a variance of regulations covering air emissions.
- 45. Olin Corporation, June 29, 1991, EPA Form R, Toxic Chemical Release Reporting.
- 46. Olin Corporation, July 3, 1991, Letter informing the IEPA of the facility's inactive status.
- 47. IEPA, August 2, 1991, letter accepting a biomonitoring plan pertaining to the Olin Waste Water Treatment Plant.
- 48. Olin Corporation, February 21, 1992, a 1991 Illinois Hazardous Waste Report.
- 49. Olin Corporation, February 24, 1992, Tier Two Emergency and Hazardous Chemical Inventory Form.
- 50. Olin Corporation, April 1992, Olin Spill Prevention and Countermeasure Plan for the Joliet facility with IEPA.
- 51. IEPA, December 15, 1992, letter informing the U.S. EPA that it was withdrawing the PCB variance for PCB storage at the Olin-Joliet facility.
- 52. Joe Carroll, Olin Corporation representative, telephone memorandums on 2/16/93, 2/18/93, 2/22/93, 2/23/93, 2/24/93, 2/25/93.

APPENDIX A

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPH LOG

VISUAL SITE INSPECTION SUMMARY OLIN CORPORATION JOLIET, ILLINOIS

Date: January 20, 1993.

Facility Vicki Ray, Olin Corporation.
Representatives: Joe Carroll, Olin Corporation.

George Thompson, Olin Corporation

State None present.

Representative:

Inspector: Jeff Miller, Metcalf and Eddy.

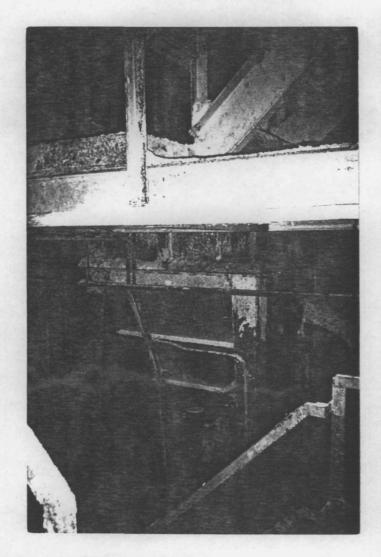
Tim Temple, Metcalf and Eddy.

Weather Cloudy, approximately 32 degrees, light breeze.

Conditions: Rain showers in the late afternoon.

Summary: The VSI began at 9:00 a.m. on January 20, 1993. The site representatives met with the inspector to help provide information on prior site activities and conditions, release history, receptors and data gaps.

A site walk-through was conducted at 1:00 p.m. to identify the former locations of SWMUs and potential AOCs determined during the initial file review. The potential for release of hazardous substances to the environment and probable pathways were assessed during the site inspection. Photographs were taken in the area of all past SWMUs and potential AOCs. Permission was granted by Olin Corporation to inspect and take photos.



Subject: SWMU #6 Baghouse #1 (BH1) in the STPP-C building Photographer: Tim Temple (M&E)

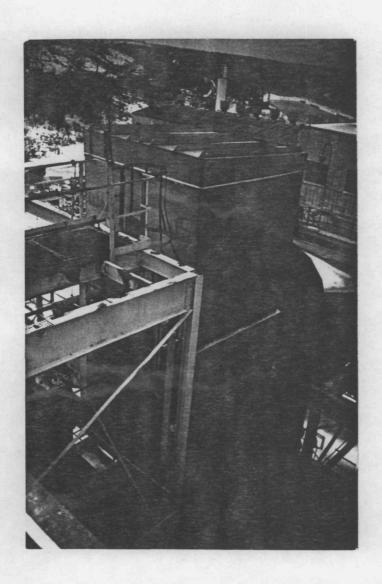
Camera: Vivitar 35C1

Date: 20 January 1993

Logbook Photo #: 1

Witness: Joe Carroll (Olin)
Time: 1310 Film: Kodak ASA 200

Direction: West

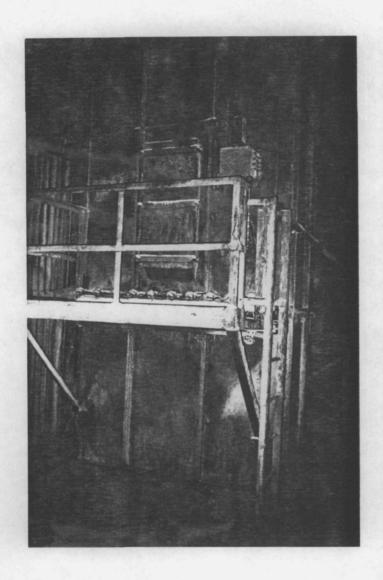


Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #2 (BH2) southwest corner of the STPP-C

building

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll
Date: 20 January 1993 Time: 1313 Film:
Direction: Southwest Witness: Joe Carroll (Olin)
Time: 1313 Film: Kodak ASA 200



Location: Olin Joliet Facility Subject: SWMU #6 Baghouse #3 (BH3), 6th floor of STPP-C building

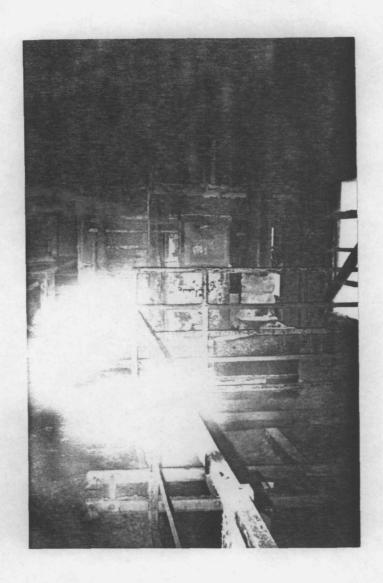
Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1

Date: 20 January 1993 Logbook Photo #: 3

Witness: Joe Carroll (Olin) Time: 1315 Film: Kodak ASA 200

Direction: East



Location: Olin Joliet Facility Subject: SWMU #6 Baghouse #4 (BH4), 6th floor of STPP-C building

Photographer: Tim Temple (M&E)

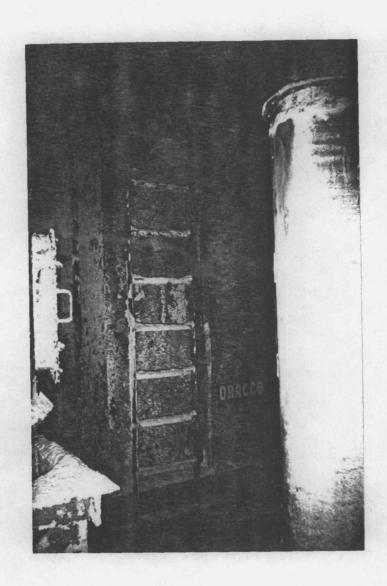
Camera: Vivitar 35C1

Date: 20 January 1993

Logbook Photo #: 4

Witness: Joe Carroll (Olin)
Time: 1315 Film: Kodak ASA 200

Direction: West



Subject: SWMU #6 Baghouse #5 (BH5), 6th floor of STPP-C building

Photographer: Tim Temple (M&E)

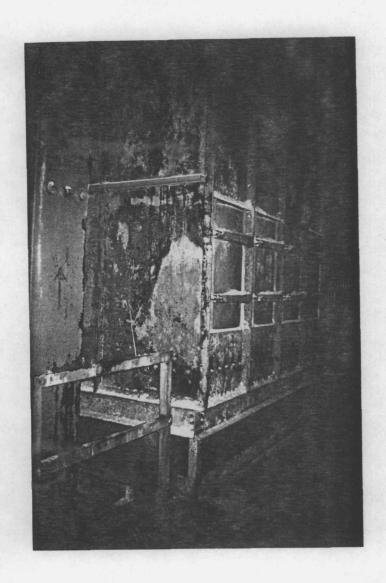
Camera: Vivitar 35C1

Date: 20 January 1993

Logbook Photo #: 5

Witness: Joe Carroll (Olin) Time: 1315 Film: Kodak ASA 200

Direction: North



Subject: SWMU #6 Baghouse #6 (BH6) in STPP-B building

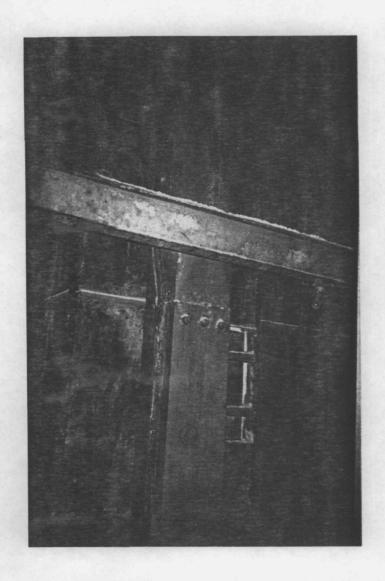
Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Date: 20 January 1993

Logbook Photo #: 6

Witness: Joe Carroll (Olin)
Time: 1325 Film: Kodak ASA 200

Direction: South



Location: Olin Joliet Facility Subject: SWMU #6 Baghouse #7 (BH7) in STPP-B building

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1

Witness: Joe Carroll (Olin)

Date: 20 January 1993 Time: 1325 Film: Kodak ASA 200 Direction: East

Logbook Photo #: 7

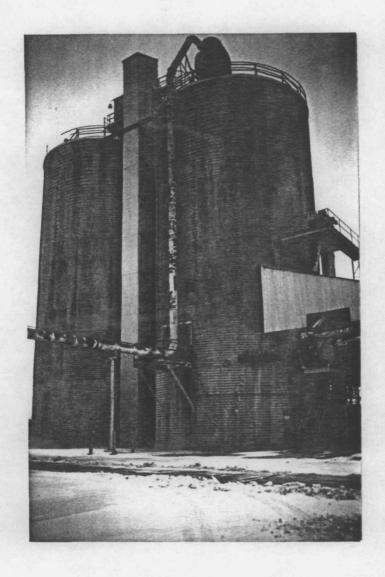


Subject: SWMU #6 Hoppers and augers for BH7 which are part of the

reclaim system

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1325 Film: Kodak ASA 200
Logbook Photo #: 8 Direction: East



Subject: SWMU #6 80' Silos north of the STPP-B building.

Baghouse #8 (BH8) was located on top of the silos.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1

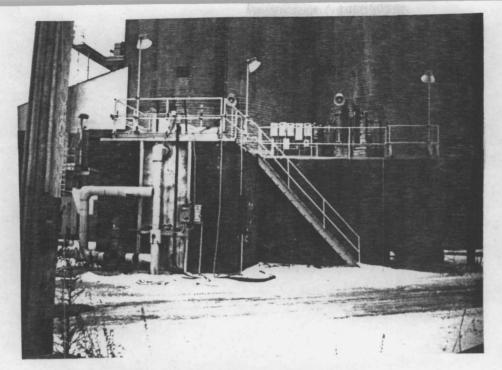
Date: 20 January 1993

Logbook Photo #: 9

Witness: Joe Carroll (Olin)

Time: 1335 Film: Kodak ASA 200

Direction: North

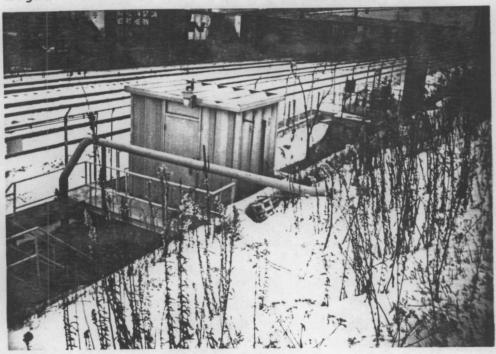


Location: Olin Joliet Facility
Subject: SWMU #9 Sewage treatment plant (inactive)

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1340 Film: Kodak ASA 200

Logbook Photo #: 10 Direction: South



Location: Olin Joliet Facility

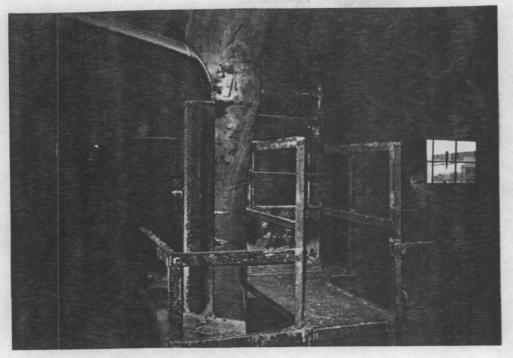
Subject: Main outfall for the facility. Discharge from the SWTF and Sanitary Plant joined here prior to entering the Des Plaines River. Orange pipe is from SWMU #9.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)

Date: 20 January 1993 Time: 1345 Film: Kodak ASA 200

Logbook Photo #: 11 Direction: North



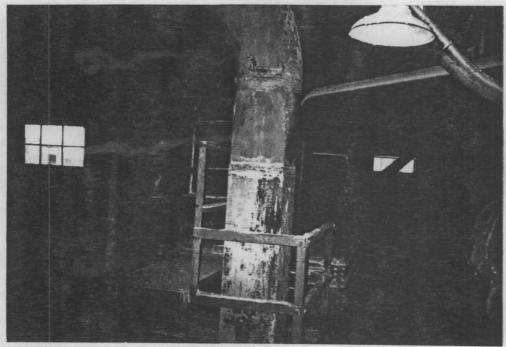
Subject: SWMU #6 Baghouse #9 (BH9) on 5th floor of STPP-A

building

Photographer: Tim Temple (M&E)

Witness: Joe Carroll (Olin) Camera: Vivitar 35C1 Date: 20 January 1993 Time: 1348 Film: Kodak ASA 200

Direction: South Logbook Photo #: 12



Location: Olin Joliet Facility

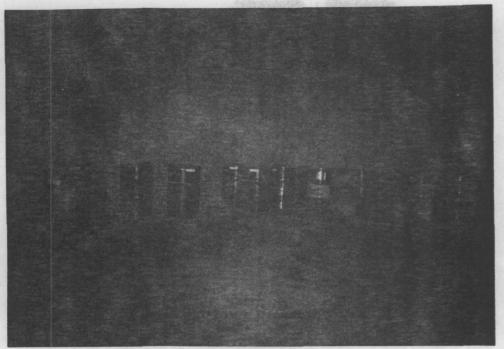
Subject: SWMU #6 Baghouse #10 (BH10) on 5th floor of STPP-A

building

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1348 Film: Kodak ASA 200

Logbook Photo #: 13 Direction: South



Subject: SWMU #1 Present oil storage area inside the Maintenance & Warehouse building. At present both virgin and used oils are stored here.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1357 Film: Kodak ASA 200

Logbook Photo #: 14 Direction: Northwest



Location: Olin Joliet Facility

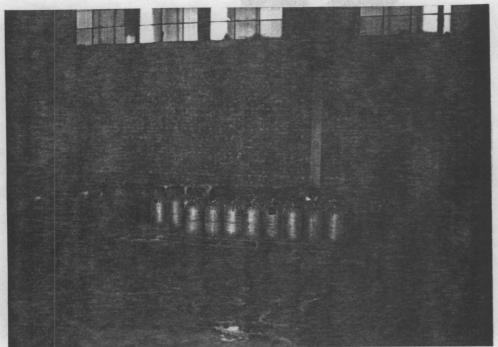
Subject: Former paint storage area inside the Maintenance &

Warehouse building.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1400 Film: Kodak ASA 200

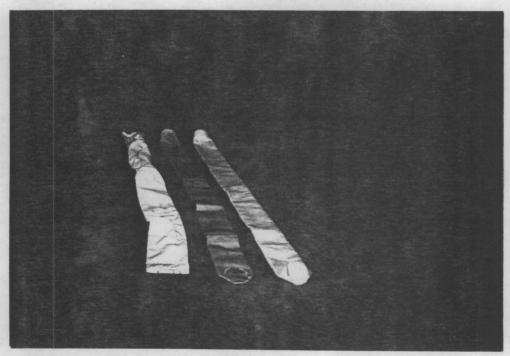
Logbook Photo #: 15 Direction: Southwest



Location: Olin Joliet Facility
Subject: SWMU #2 Carboys used for transporting acid when the plant was in operation stored in the Maintenance & Warehouse building. All containers have been cleaned and are empty.
Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1403 Film: Kodak ASA 200

Logbook Photo #: 16 Direction: South



Location: Olin Joliet Facility

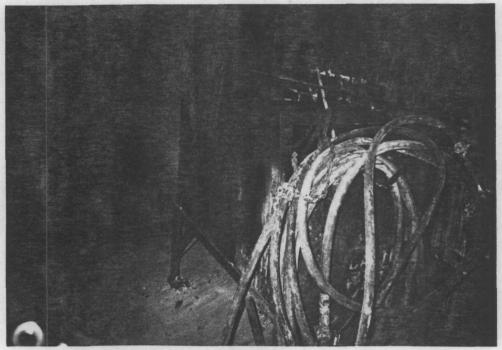
Subject: SWMU #6 Three kinds of baghouse bags used in the plant.

Nomex, Dacron, and polyester from left to right.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1405 Film: Kodak ASA 200

Logbook Photo #: 17 Direction: South



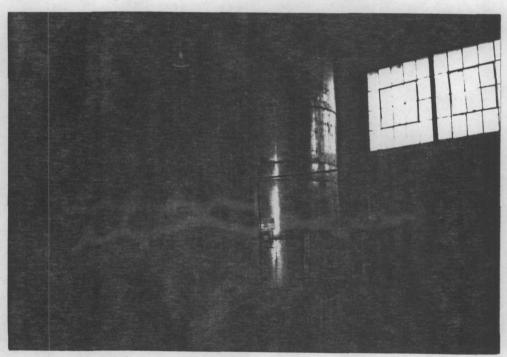
Subject: SWMU #5 Parts washer in the Maintenance & Warehouse

building.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin) Date: 20 January 1993 Time: 1410 Film: Kodak ASA 200

Logbook Photo #: 18 Direction: South



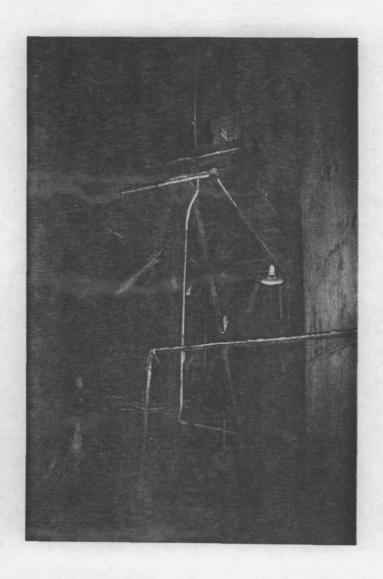
Location: Olin Joliet Facility

Subject: SWMU #1 Waste oil tank located in the old TEOX building.

Currently empty.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin) Date: 20 January 1993 Time: 1415 Film:
Logbook Photo #: 19 Direction: Southeast Film: Kodak ASA 200



Subject: SWMU #6 Baghouse #11 (BH11) for the soda ash silo in the

MSP & DSP building

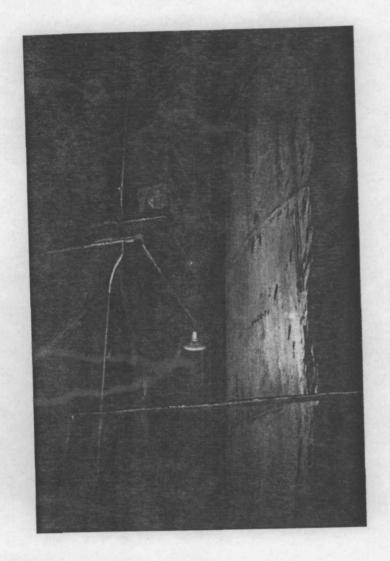
Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1

Date: 20 January 1993 Logbook Photo #: 20 Witness: Joe Carroll (Olin)

Time: 1425 Film: Kodak ASA 200

Direction: Southwest



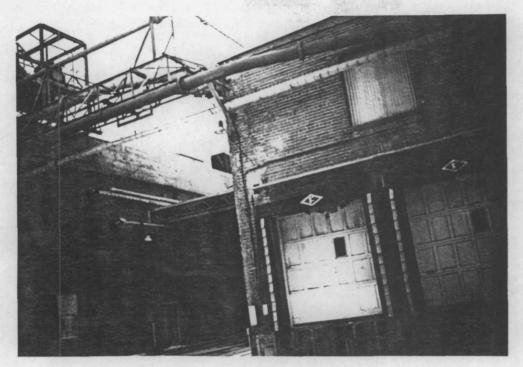
Location: Olin Joliet Facility Subject: SWMU #6 Baghouse #12 (BH12) for the soda ash silo in the

MSP & DSP building

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin) Date: 20 January 1993 Time: 1426 Film: Kodak ASA 200

Direction: Southwest Logbook Photo #: 21



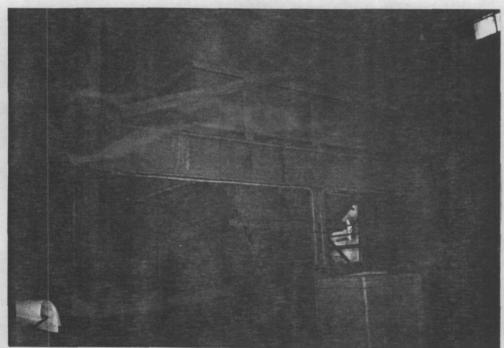
Subject: SWMU #6 Baghouse #13 (BH13) located on the roof of the

MSP & DSP building

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1430 Film: Kodak ASA 200

Logbook Photo #: 22 Direction: North



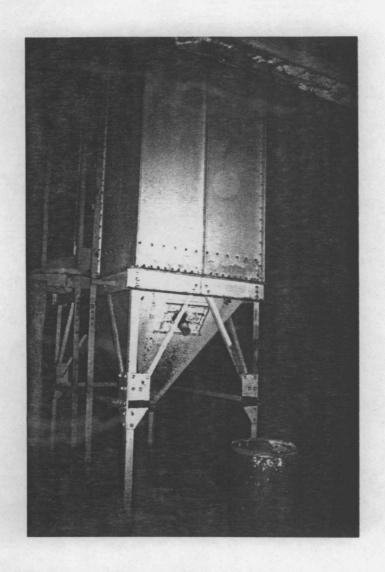
Location: Olin Joliet Facility

Subject: SWMU #6 Baghouse #14 (BH14) located in the SSF building

for sodium silica fluoride Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1432 Film: Kodak ASA 200

Logbook Photo #: 23 Direction: North



Location: Olin Joliet Facility
Subject: SWMU #6 Baghouse #15 (BH15) located in the TSP building

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1
Date: 20 January 1993
Logbook Photo #: 24

Witness: Joe Carroll (Olin)
Time: 1435 Film: Kodak ASA 200

Direction: West



Location: Olin Joliet Facility Subject: SWMU #6 Baghouse #16 (BH16) located on the 2nd floor in the TSP building. White material is phosphates that have escaped the baghouse.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin) Date: 20 January 1993 Time: 1437 Film: Kodak ASA 200

Logbook Photo #: 25 Direction: West

Location: Olin Joliet Facility

Subject: SWMU #6 Baghouse #17 (BH17) located in the MSP & SAPP

building

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin) Date: 20 January 1993 Time: 1440 Film: Kodak ASA 200

Logbook Photo #: 26 Direction: East



Subject: SWMU #6 Baghouse #18 (BH18) SAPP baghouse dust collector

and bags, located in the MSP & SAPP building Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1

Date: 20 January 1993

Logbook Photo #: 27

Witness: Joe Carroll (Olin)

Time: 1443 Film: Kodak ASA 200

Direction: North



Location: Olin Joliet Facility Subject: SWMU #6 Baghouse #19 (BH19) located in the Department

40/ Phosphoric Acid Plant.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1

Witness: Joe Carroll (Olin)
Time: 1450 Film: Kodak ASA 200 Date: 20 January 1993 Logbook Photo #: 28

Direction: North



Location: Olin Joliet Facility Subject: SWMU #6 Baghouse #20 (BH20) located on the 1st floor of

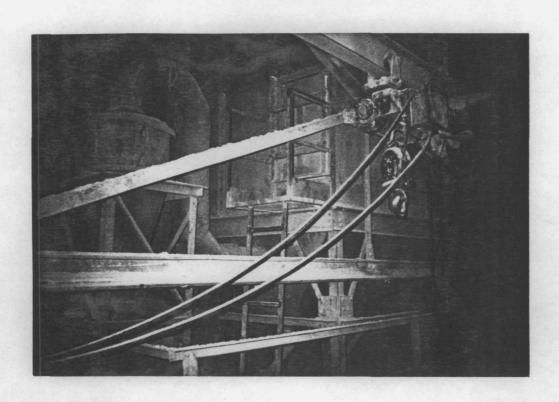
the High Grade Fertilizer building.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)

Date: 20 January 1993 Logbook Photo #: 29 Time: 1455 Film: Kodak ASA 200

Direction: South



Location: Olin Joliet Facility Subject: SWMU #6 Baghouse #21 (BH21) located on the 2nd floor of

the High Grade Fertilizer building.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1456 Film: Kodak ASA 200
Logbook Photo #: 30 Direction: South



Location: Olin Joliet Facility Subject: SWMU #6 Baghouse #22 (BH22) located on top of the Soda

Ash & Rock Silos

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1

Witness: Joe Carroll (Olin) Time: 1507 Film: Kodak ASA 200 Direction: South Date: 20 January 1993

Logbook Photo #: 31

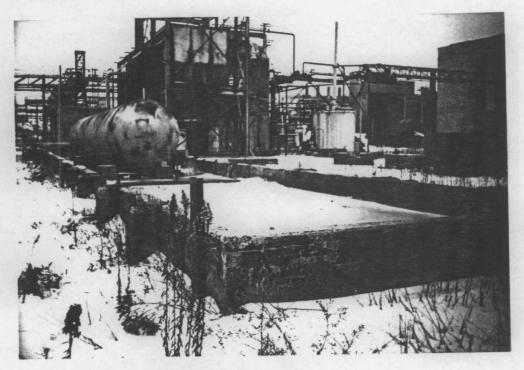


Location: Olin Joliet Facility Subject: SWMU #6 Baghouse #23 (BH23) located on top of the Soda

Ash & Rock Silos

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1507 Film: Kodak ASA 200
Logbook Photo #: 32 Direction: North



Location: Olin Joliet Facility

Subject: SWMU #8 - 20' x 26' concrete storage pad.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin) Date: 20 January 1993 Time: 1510 Film: Kodak ASA 200

Logbook Photo #: 33 Direction: South



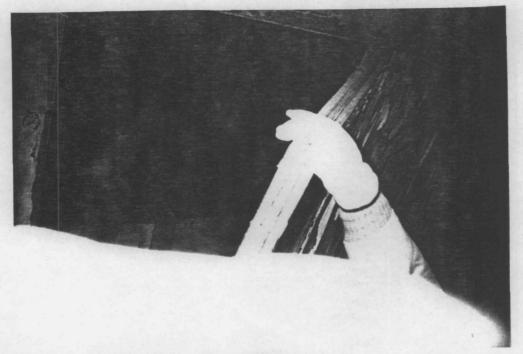
Location: Olin Joliet Facility

Subject: AOC #1 North pond for surface water runoff. Adjacent

Commonwealth Edison plant is in background.

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin) Date: 20 January 1993 Time: 1515 Film: Kodak ASA 200 Logbook Photo #: 34 Direction: North



Location: Olin Joliet Facility Subject: SWMU #4 PCB Transformer & Storage Area showing interior of the building and transfer pans Photographer: Tim Temple (M&E)

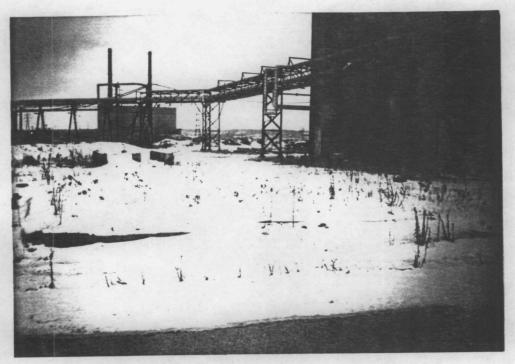
Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1515 Film: Kodak ASA 200



Location: Olin Joliet Facility Subject: SWMU #4 PCB Transformer & Storage Area showing exterior of the building

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1515 Film: Kodak ASA 200
Logbook Photo #: 36 Direction: Northeast



Location: Olin Joliet Facility

Subject: SWMU #7 120' x 18' storage area (foreground)

Photographer: Tim Temple (M&E)

Witness: Joe Carroll (Olin) Camera: Vivitar 35C1 Date: 20 January 1993 Time: 1522 Film: Kodak ASA 200 Logbook Photo #: 37 Direction: West



Location: Olin Joliet Facility

Subject: AOC #1 South pond for storm water runoff

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)
Date: 20 January 1993 Time: 1523 Film: Kodak ASA 200
Logbook Photo #: 38 Direction: South



Location: Olin Joliet Facility

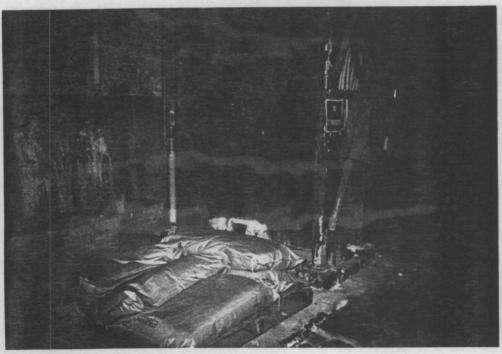
Subject: SWMU # 3 Lab Pack Storage Area showing interior of the

storage closet

Photographer: Tim Temple (M&E)

Witness: Joe Carroll (Olin) Camera: Vivitar 35C1 Date: 20 January 1993 Time: 1525 Film: Kodak ASA 200

Logbook Photo #: 39 Direction: West



Location: Olin Joliet Facility

Subject: SWMU # 2 Showing drum cleaning area inside DSP

Filtration building

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin) Date: 20 January 1993 Time: 1545 Film: Logbook Photo #: 40 Direction: Southeast Film: Kodak ASA 200



Location: Olin Joliet Facility Subject: AOC #3 Gypsum pile and the associated piping

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Camera: 20 January 1993 Time: 1604 Film: Logbook Photo #: 41 Direction: Southwest Witness: Joe Carroll (Olin) Film: Kodak ASA 200



Location: Olin Joliet Facility

Subject: SWMU #11 Storm Water Treatment Facility; Clarifier in

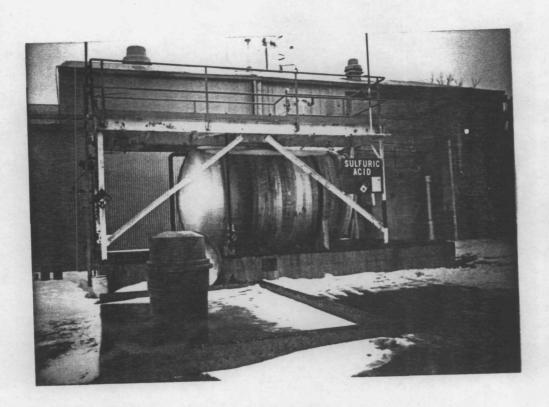
foreground and lime tank in background

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1

Logbook Photo #: 42 Direction: Northeast

Witness: Joe Carroll (Olin) Film: Kodak ASA 200



Location: Olin Joliet Facility Subject: SWMU #11 Sulfuric acid tank at the SWTF

Photographer: Tim Temple (M&E)

Camera: Vivitar 35C1 Witness: Joe Carroll (Olin)

Date: 20 January 1993 Time: 1610 Film: Kodak ASA 200

Logbook Photo #: 43 Direction: East

APPENDIX B

VISUAL SITE INSPECTION FIELD NOTES

1

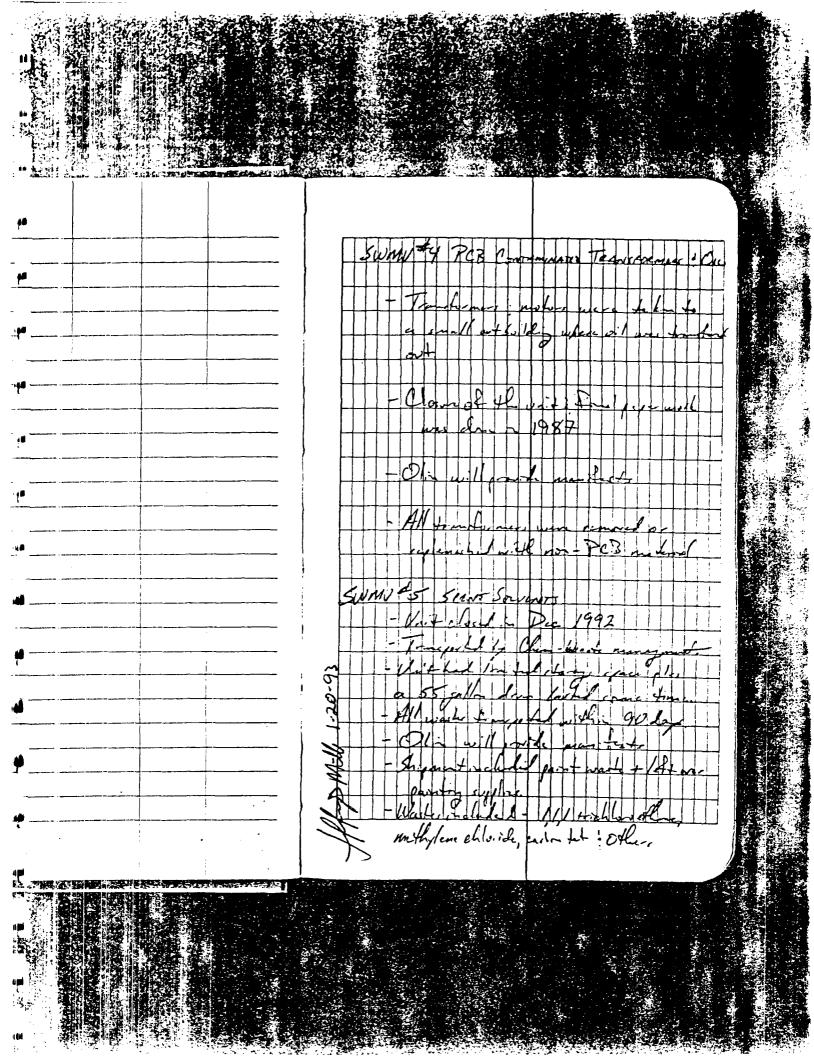
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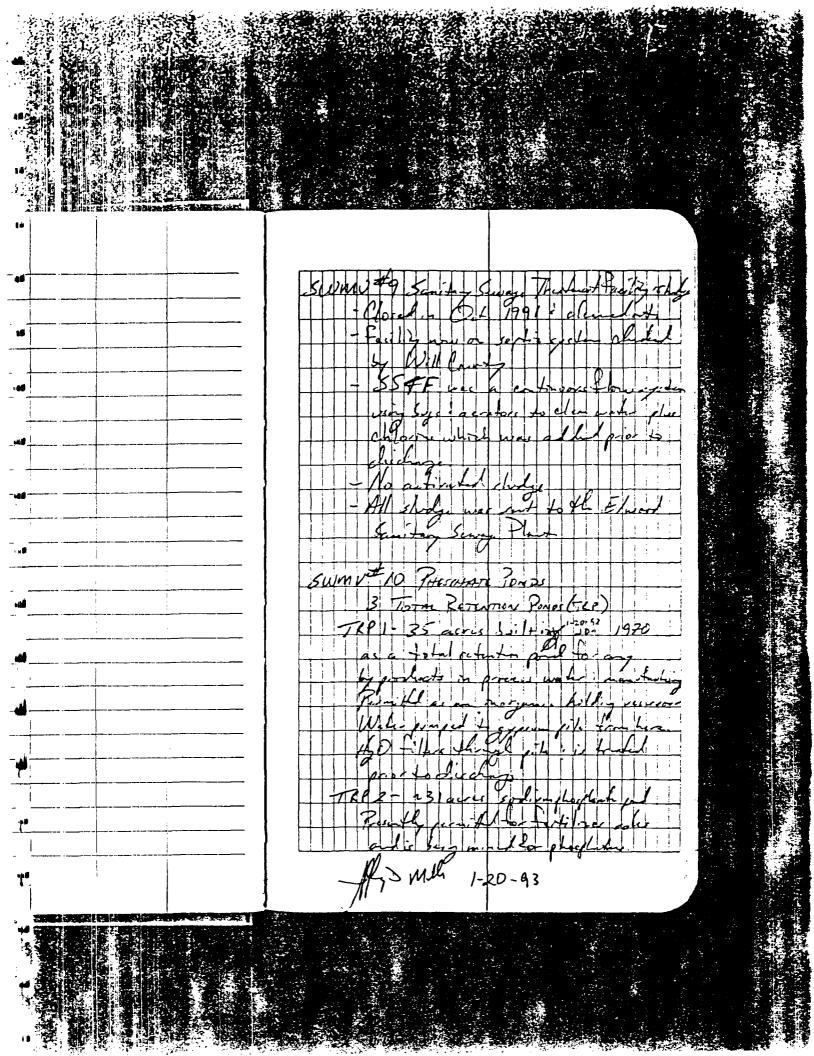
DUN- JOLIET	20 JAN. 1995
Proply pront for i	
People procent for	a transcoping a South
Swine : Acre	9
Vick: Ray - 01.	011
Joe Carroll - Olim	
George Thompson - Ola	
Tim Temple - MiE	
JSP M: H M. E.	
Meeting begin at a	900 4 4 01
facility in Jolist	Facility is everythe
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APP D MIL 12093

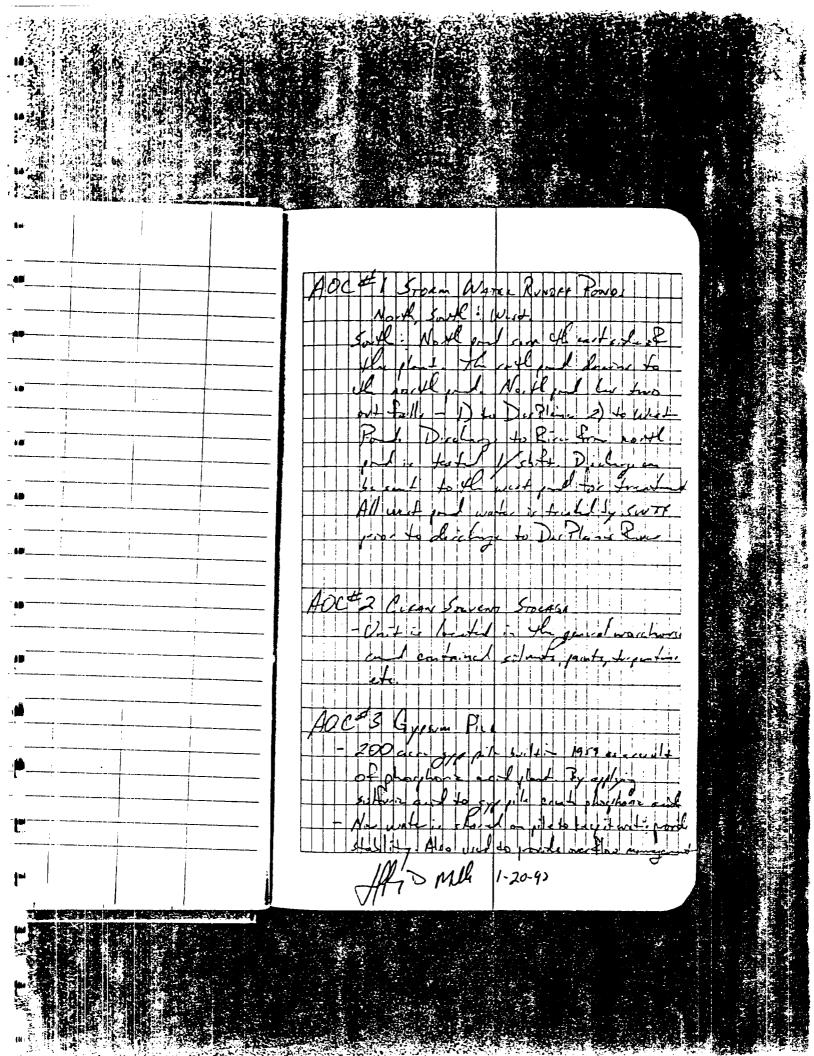
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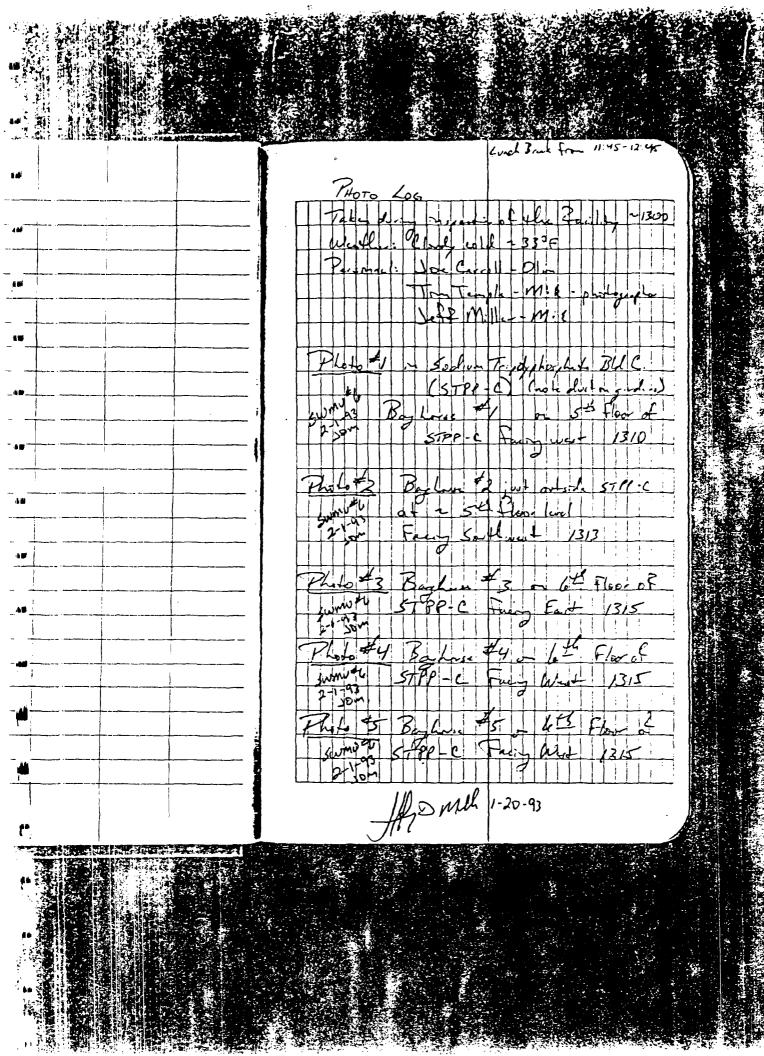
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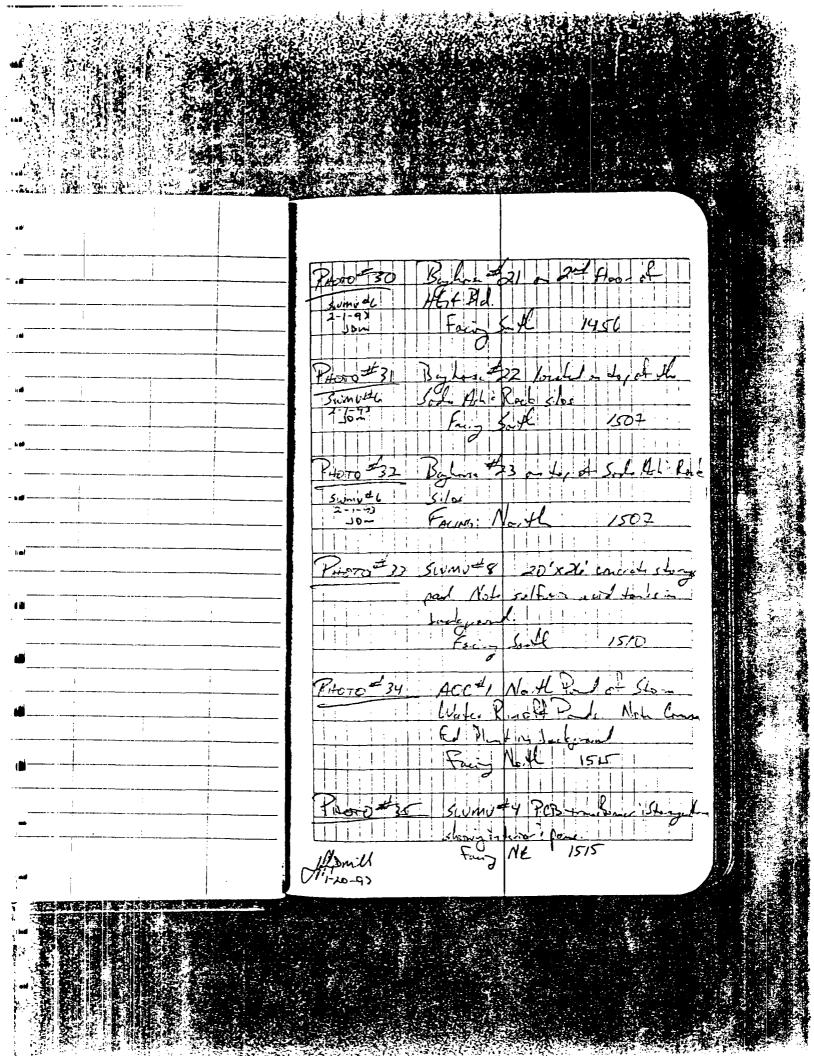
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FACING WEST PHOTO #21 Byland 17 7MV 46 2-493 700 FACENG EAST FAC NG: North 10MU=U 2-1-93 200 FACING North Py) well 1-20-93



1-20-93

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APPENDIX C

LABORATORY ANALYSES



Drew industrial Division/

Drew Amerold Marine Division
ASHLAND CHEMICAL, INC. SUBBIDIARY OF ASHLAND CIL, INC.
One Brew Plaze, Scenton, New Jersey 07005

	KANSAS CITY, KS. LABORATORY	
	WATER SAMPLE	
SAMPLE FROM OLIN CORP-JOLIET JOLIET WORKS PATTERSON RD JOLIET IL	OI 60436	RFA NUMBER 52168 -2 DATE SAMPLED 04/16/92 DATE RECEIVED 04/22/92 DATE REPORTED 05/04/92 DREW REPRESENTATIVE FREYMARK SCOTT
SAMPLE NUMBER 05 SAMPLE DESCRIPTION "A	TEST DESCRIPTION	of pile
TOTAL ALKAL TOTAL HARDN CALCIUM (AS MAGNESIUM (CHLORIDE (AS SILICA (AS CONDUCTIVIT GODIUM (AS FLUORIDE (A	Y (AS CACO3) MG/L INITY (AS CACO3) MG/L ESS (AS CACO3) MG/L CACO3) MG/L AS CACO3) MG/L S CL) MG/L S CL) MG/L S SO4) MG/L S SO4) MG/L S NG/L S NG/L S NA) MG/L NA) MG/L S F) MG/L	<pre></pre>

FLUORIDE (AS F) MG/L 198.0

TOTAL SOLUBLE INORGANIC PHOSPHATE, MG/L 9,990.0

SOLUBLE ORTHO PHOSPHATE (AS PO4) MG/L 9,990.0

SOLUBLE POLY PHOSPHATE (AS PO4) MG/L ... 0.0



Drew Industrial Division/ Drew Ameroid® Marine Division

ASHLAND CHEMICAL INC. SUBSIDIARY OF ASHLAND OIL, INC. One Drew Plaze, Boonton, New Jersey 07005

ANALYTICAL REPORT

KANSAS CITY, KS.
LABORATORY

WATER	SAMPLE

SAMPLE FROM

RFA NUMBER 52168 -2

DATE SAMPLED 04/16/92

OLIN CORP-JOLIET DATE RECEIVED 04/22/92

JOLIET WORKS DATE REPORTED 05/04/92

PATTERSON RD DREW REPRESENTATIVE

JOLIET IL OI 60436 FREYMARK

reyhark boot

SAMPLE NUMBER 03

SAMPLE DESCRIPTION TRP 1

TEST DESCRIPTION

RESULTS

PH VALUE 10.3 P ALKALINITY (AS CACO3) MG/L 2,175.0 TOTAL ALKALINITY (As CACO3) MG/L 5,980.0 TOTAL HARDNESS (AS CACO3) MG/T. 1.2 0.5 0.7 CHLORIDE (AS CL) MG/L 171.0 SULFATE (AS SO4) MG/L 3,150.0 SILICA (AS SIO2) MG/L 702.5 CONDUCTIVITY, MICROMHOS/CM 17,700.0 SODIUM (AS NA) MG/L 2,232.0 1,080.0 FLUORIDE (AS F) MG/L TOTAL SOLUBLE INORGANIC PHOSPHATE, MG/L . 1,790.0 SOLUBLE ORTHO PHOSPHATE (AS PO4) MG/L ... 1,788.0 SOLUBLE POLY PHOSPHATE (AS PO4) MG/L 2.0

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Drew industrial Division/ Drew Ameroid Marine Division ASHLAHD CHEMICAL, INC. SUBSIDIARY OF ASHLAHD OIL, INC.

One Drew Plaze, Beenten, New Jersey 07005

ANALYTICAL REPORT

KANSAS CITY, KS. LABORATORY

0.2

WATER SAMPLE

SAMPLE FROM RFA NUMBER 52168 -2 DATE SAMPLED 04/16/92 OLIN CORP-JOLIET DATE RECEIVED 04/22/92 JOLIET WORKS DATE REPORTED 05/04/92 DREW REPRESENTATIVE PATTERSON RD

OI IL 60436 FREYMARK JOLIET SCOTT

SAMPLE NUMBER 02

SAMPLE DESCRIPTION NORTH POND

TEST DESCRIPTION	RESULTS
PH VALUE	7.9
P ALKALINITY (AS CACO3) MG/L	< 0.1
TOTAL ALKALINITY (AS CACO3) MG/L	273.0
TOTAL HARDNESS (AS CACO3) MG/L	576.5
CALCIUM (AS CACO3) MG/L	225.8
MAGNESIUM (AS CACO3) MG/L	350.7
CHLORIDE (AS CL) MG/L	20.0
SULFATE (AS SO4) MG/L	430.0
SILICA (ÀS SIO2) MG/L	4.9
CONDUCTIVITY, MICROMHOS/CM	1,270.0
SODIUM (AS NA) MG/L	27.1
	0.1
TOTAL SOLUBLE INORGANIC PHOSPHATE, MG/L .	13.3
SOLUBLE ORTHO PHOSPHATE (AS PO4) MG/L	

SOLUBLE POLY PHOSPHATE (AS PO4) MG/L

APPENDIX D

WASTE MANIFESTS FOR 1991 & 1992

WASTE MANIFEST ILD LY9 809 379 Document No. of 1 required by manifest Document No. of 1 requir	the shaded areas is not Federal law, but is nois law. Int Number First States 1 States MANIFEST						
3. Generator's Name and Mailing Address Location If Different: OCLIV PATTERSON AND LARAWAY ANS JEVET PL 60436 4. Generator's Phonel 815 1777 - 4901 Millinois Manifest Docume LL4208623 B. Illinois Manifest Docume LL4208623 B. Illinois Manifest Docume LL4208623	nt Number						
4. Genera or 1 Pronel 815 1777 - 4901 SM ED ===================================							
4. General or 1 Prione 1 815 1727 - 4901 SM 10 1727 - 4901	HOUSELANDE VARIBORA						
5. Transporter 1 Company Name 6. US EPA ID Number 7 C. Winois Transporter's ID.	2145100140						
5. Transporter 1 Company Name 6. US EPA ID Number 7 C. IIInois Transporter's D. AMETROPOLITAN ENVIRONMENTAL INT 1900 10 334 D. 14/9 15/16-16638 = 3772							
7. Transporter 2 Company Name 8. US EPA ID Number E. Minois Transporter's ID*	2000年1000年						
9. Designated Facility Name and Site Address 10. US EPA ID Number G. Illinois - (Cally)							
SYSTECH FACILITYS ID 13 P. 1. 1.							
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) 12. Containers 13. 14.							
No. Type Quantity W/V							
E a NCH-HAZARD CUS USED OIL	XXNA						
0.0.1 7.7 0.24.3.6.1	JAJA TEF						
A D	XXI						
A T	Authorization Number:						
0 C	X X Number						
	Authorization Number						
d	EPA.HW. Number						
	Authorization Number						
J. Additional Descriptions for Materials Listed Above SYSTECH AUTHORIZATION # AA 14994 OFF SYEC USED OIL 15. Special Handling Instructions and Additional Information	Cubic Yards						
15. CENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degr							
to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which is and future threat to human health and the environment, OR, if I am a small quantity generator, I have made a good faith effort to minimize	my waste generation						
and select the best waste management method that is available to me and that I capationd Printed/Typed Name Signature	Date Month Day Year						
V CHRIS J. ISIHOS T.	10,4,2,6,9,1						
T 17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signature	Morth, Day Year						
E William TWCKON William Klein	042691						
13. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature	Date						
E R	Month Day Year						
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.							
Project Name Alley Signal of Portry Market Developed 111th Section 21, they the morning of a contract of the Agency. False to provide the market of the Agency. False to provide the market of the Agency. False to provide the market of the Agency.	1042997						

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Pe	NON- HAZAZDOUS se print or type. (Form described for use on etil		EPA Form 8700-22	(3-84)	Form	Approved. OMB		09. Expires 9-30-88
1	UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID TLD 049 809	Docu	andest ment No.	2. Page of		y Federal la	eded areas is not w, but is required
	3. Generator's Name and Mailing Address OUN CHEMICALS	¥.				Manifest Doc.		
	RATTERSON & LARAWAY 4. Generator's Phone (815) 72				B.lifinois		***	14171
	4. Generator's Phone (815) 72. 5. Transporter 1 Company Name	7 - 4901 6.	US EPA ID Number		<u> </u>	ا ا المدين		5,90,130
	METROPOLITAN ENVIRONM	ENTAL INT	190010 39	7				orter's Phone
	7. Transporter 2 Company Name	8. 1	US EPA ID Number			Transporter's		
11	Designated Facility Name and Site Addres	s 10.	US EPA ID Number		Gillinois	2521/5 2	THE WAY	orter's Phone.
	SYSTECH ENVILONMEN LIMEDALE ROAD					3. 半海		
	GREEN CASTLE, IN. 4	6/35 I TN	0 006 419	212		s Phone		
	11. US DOT Description (Including Proper S			12.Conta	iners	13. Total	14. Unit	Wasselfe
G	a NON - HAZARDOUS	used oil		No.	Туре	Quantity	WVO Z	EPA HWI NUMBER
N E	(WAST	E oil)		001	TTB	2832		MA PAR
R	b.						X	EPA HW Number
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0	c.						1	EPA HW Number
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1	d							EPA HW Number
Ш			,) X	Anonzation Number
П	J. Additional Descriptions for Materials Listed		era september 1905	<u> </u>		L L L L	Vactor Lie	A About
	SYSTEM AUTHORIZATION OFF SPEC USE	N # AA 149	94		in Heen	illons	. د	ubic Yards
	15. Special Handling Instructions and Addition	al Information						
	16. GENERATOR'S CERTIFICATION: I hereby of proper shipping name and are classified, phighway according to applicable internation. Unless I am a small quantity generator who 3002(b) of RCRA, I also certify that I have economically practicable and I have select threat to human health and the environmen.	acked, marked, and labeled, in nal and national government in has been exempted by statute a program in place to reduce ed the method of treatment, s	and are in all respects regulations, and lilino to the or regulation from the the volume and toxic	s in proper is regulation duty to ma city of wast	condition ins. ake a wasti e generati	for transport to minimization ed to the degre	certifications	etermined to be esent and future
	Printed/Typed Name —		gnatuh				M	Date onth Day Yea
Y	CHRIS J. PSIHOS		A					4267
TRA	17. Transporter 1 Acknowledgement of Recei		gnature (1)				Mo	Date
SP	DAVIO E. WENNII	VG	Saul 2.	Wer.	MAL	· ·	_	43691
O R	18. Transporter 2 Acknowledgement of Recei Printed/Typed Name		gnature		-0		Ma	Date onth Day Yea
A		5.	y		·		 	
FAC	19. Discrepancy Indication Space							
1	20. Facility Owner or Operator Certification of	If receipt of hazardous materi	als covered by this ma	anilest exc	ept as not	ed in item 19.		Date

NILLINOIS: 217 / 782-3637

24 HIDUP EMERGENCY AND SPILL ASSISTANCE NUMBERS*
OUTSIDE ILLINOIS: 800 / 424-8802 or 202 / 426-2675

DISTRIBUTION: PART - 1 GENERATOR PART - 2 IEPA
PART - 3 FACILITY
PART - 4 TRANSPORTER
PART - 5 IEPA
PART - 6 GENERATOR

GENERATOR COPY - PART 1-00 NOT REMOVE PART 1 FROM SET UNTIL COMPLETED.

Month Day Year

04:2791

Printed/Typed Name

N. Fowlor

SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS AND SPECIAL WASTE.

State Form LPC 62 8/81 IL532-0610 NOTE: FORM DESIGNED TO PRINT 8 LINES PER INCH. EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-91 Manifest Information in the shaded areas is not required by Federal law, but is required by Iffinois law. UNIFORM HAZARDOUS 1. Generator's US EPA ID No. B Decriber No LD049809379 WASTE MANIFEST Generator's Name and Mailing Address Location If Different: A. Illinois Manifest Document Number IL #4467699 MANIFESTER Olin Chemicals Patterson Road - Post Office Box 2219 B. Illinois Generator's 1, 9, 7, 0, 4, 5, 0, 0, 0, 1 Joliet, Illinois Generator's Phone(815 5. Transporter 1 Company Name 6. US EPA ID Number C. Illinola Transporter's ID 3277 0, 0:7+5 099202 D. (708) 396-1050 Transporter's Phone? <u> Chemical Waste Management-TSD</u> E. Illinois Transporter's ID TOWN 1070 PT 5 7 Transporter 2 Company Name US EPA ID Number 9999 F. (708) 396-1060 "Transporter's Phone" <u>Chemical Waste Management-Alsip</u> 9. Designated Facility Name and Site Address 10. US EPA ID Number Facility's ID 1 1 6 3 7 1 2 1 1 0 0 0 0 Trade Waste Incineration H. Facility's Phone #7 Mobile Drive Sauget Illinois 62201 III. D. 0.9.8.6.4.
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) 12. Containers 13. Total Unit Type Quantity Wt/Vo FPA HW Number a Waste Flammable Liquid, nos. XIDIOIOIIIX Flammable Liquid 0.0.8 0. 10,01,00 UN1993 LAB 143645 11010101910 b. Waste Oxidizer, nos. XIDIOIOI1 Cridizer 0.0.5 0.6 0.0,1,0,0 0191010101 N 47474 c Waste Acid, Liquid, nos XIDIOIOIS Corrosive Muterial 0.0.2 P. Floro101410 1 = 1760 LAB <u>V43645</u> 0191010101 · Waste Fikaline, Liquid, nos C XIDIOIOI3 Corrosine Muterial 0.0.2 D. Floror 014, 01 G NALTIA LAB 743645 Additional Descriptions for Materials Listed Above HII are labpucks K. Handling Codes for Wastes Listed Above in Item # 14 1 4 OCT 7-13,19 DOOS, VOO3, FOOS, U194, U239, PO22 COUNTY SOUNDS 1 = Gallons 2 = Cubic Yards 116) OCT 1-3,5-6 De07, Dec4, DO05, Pac4, De11, PI14, Beak, Deay, Pale 11c) oct 1=-18 DC04,0004, : 114) DCT 4,16 15. Special Hanzling Instructions and Additional Information Chereteat VI THIS MATERIAL MUST BE DISPATCHED NO LATER THAN Manager L. At (205) 統 SIGNATURE 15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future preat to human health and the emironment, OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation. and select the best waste management method that is available to me and that I can all Date Pented/Typed Name Signature Dav 0 17101/1° innegan Transporter 1 Acknowledgement of/Receipt of Materials Date Printed/Typed Name Signature Day Month SOBERT LIKANN JR 0 7011 8 3. Transporter 2 Acknowledgement of Receipt of Materials Date Printed/Typed Name Signature Month Day 1347162 10171/10151 9. Discrepancy Indication Space Date 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Parted/Typed Name Month Day Year 1799 COPY 1. TSD MAIL TO GENERATOR

FOR SHIPMENT OF HAZARDOUS, INFECTIOUS P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761 AND SPECIAL WASTE. State Form LPC 62 8/81 IL532-0610 NOTE: FORM DESIGNED TO PRINT 8 LINES PER INCH. EPA Form 8700-22 (Rev. 6-89) Form Approved, OMB No. 2050-0039, Expires 9-30-91 UNIFORM HAZARDOUS 1. Generator's US EPA ID No. Manifest Information in the shaded areas is not required by Federal law, but is required by Illinois law. Opcument No. WASTE MANIFEST LD049809379 A Illinois Manifest Occument Number 446700 MANIFEST 3. Generator's Name and Mailing Address Location If Different: Olin Chemicals Patterson Road - Post Office Box 2219 B. Illinois Joliet Illinois 60433 4. Generator's Phone 815 740-5496 Generator's 119171014151010101 5. Transporter 1 Company Name C. Illinois Transporter's ID 77 15 6. US EPA ID Number 0099202681 D. 708) 396-1050 : Transporter's Phone <u> Chemical Waste Management-ISD</u> 7. Transporter 2 Company Name E. Illinois Transporter's ID 12 10 10 77. US EPA ID Number F. (708) 396-1060 Transporter's Phone Chemical Waste Management-Alsip 9. Designated Facility Name and Site Address US EPA ID Number Hinos Facility's ID | 1 | 10 | 3 | 1 | 12 | 1 | 10 | 10 | 19 Trade Waste Incineration H. Facility's Phone #7 Mobile Drive 271-2804 Sauget Illinois 62201 L.D.O.9.8.6.4.

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) Waste No. 7 12. Containers Total Unit Туре Quantity Wt/Vo a. Wasie Oxidizer, nos H 010191X Oxidizer 0.0.1 10M1010101515 100101PIC PFPINU LAB v9 3645 b. Waste Acid, Liquid, nos (Poison Inhabation Hazard) XIDIO10 IX Corrosive Muterial 0.0.2 D.F 10,0,0,2,5 1010101910 LAB V93645 (Arsenic, Lead, and Mercung Compound) c. Waste Poison B Liquidinos XrPitri Palson B p-nitrophenol, Ammonium Brucine, 2,4 Dinitrophenal) CABV43645 0.0.1 10 M O1 01 015 15 1 019101010 UNABIO (Potassium Cyanide, Phenol d. Waste Poison B Liquidinos Lead compounds) Poison B UNZEIO C. C. 1 D. F 10,0,0,0,2,0 DOT-E 9723 LABV93645 0191010101 J. Additional Descriptions for Materials Listed Above HII are Lub Packs K. Handling Codes for Wastes Listed Above In Item # 14

1 = Gallons 2 = Cubic Yards 114) OCT -15 P119, DOOT, DOOS, PLAC. 116) OCT 20-21 DOUS 11c) OCT 14 U170, PO12, DO05, DOOR, DOOR, DO11, PO18, U144, PO48 IN EVENT OF AN EMERGENC 11d) OCT 34 DOOS, VI44, V189 Contact Chemical Waste 15. Special Handling Instructions and Additional Information Management Inc. ALCORD DES-0721 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford? Date ignature Month Day Year 47101/191 Date 17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Month Day Signature Year 0,70,1,90

18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name Signature

Month Day aurice 1017111a9L

19. Discrepancy Indication Space

Date 20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. **Eignature** Printed/Typed Name Month Day

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Date

State Form LPC 62 8/81 IL532-0610

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III Olin Chem	ame and Mailing Address Licals Road - Post Off		If Different:		IL 4	lanifest Doc 1467	ument 702	Number NANIFEST FEE PAID
Joliet, I	llinois 60433 bone(_ 815) 740	SACC			B. Illinois Generat	or's 1 0	7 0	4 5 0 0 0
5. Transporter 1 (<u>-5495</u> 6.	US EPA ID Num	ber	C. Illinois T	ransporter's		4,5,0,0,0,1 0,0,7,5
Chemical	Waste Management	-TSD I	D 0 9 9 2 0		D. (708)	396-105	0 Tr.	ansporter's Phone
7. Transporter 2 (•	8.	US EPA ID Num	-				0,0,7,5
	Waste Management ity Name and Site Addres		US EPA ID Num	الكسيانية الأجالات	A 1111			ansporter's Phone
Trade Was	te Incineration	-			Facility'	S ID I b	311	2,1,0,0,0,9
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1 Flummulale			(Wet)	2 12 1			. ſ	X XIDIO IOIS Authorization Number
1 VN 79 3	PM-A, nos	८ म छ	V93645	0.0.1	C.W 0,0	10,0,5	<u> </u>	01910101011 EPA HW Number
ORM-A	7271-71, 1105							X XIVIQIQIO
II NA 1643		LAG	V93645	0.c.a	D.Flore	00110	6	0191010101
112) OCD -	notions for Materials Listed				In Item 4	14		s Listed Above
	35 Dool, 1000 25				1 = Gall	ons ·	2 = (Cubic Yards
	C Delo, Deel, De	•						•
	2-23 U211 Ucu		·		•			
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	CERTIFICATION: I hereby sec						٠٠٠٠٠	<u> </u>
	; name and are classified, packi plicable international and nation			roper condition	for transport	by highway		
to se economica	quantity generator, I certify the any practicable and that I have a at to human health and the en	selected the practicable in	nethod of treatment, storag	ge, or disposal o	currently avail	able to me wh	nica ກາກ	nimizes the present
	est waste management method		nd that I can allord.	(ſ	Date
BRIAN		AN	Signature	· /	,			Month Day Yea
	Acknowledgement of Rece			10				Date
Printed / Typed	- 1	77	Signature	-/\/	, (Month Day Yea
18. Transporter 2	Acknowledgement of Rece	JR -	1 DOBULLO	XINA			 	Date
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19. Discrepancy ii	CP J. AAIL	<u> </u>	Macon	ia g	lase	1.2		0171/10191
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20 5-11 0	0.10			Abo con to the			10 1	Data
r 20. Facility Owner Printed/Typed	r or Operator: Certification Name	or receipt of nazardou	s materials covered by Signature	inis manifest	except as r	oted in item		Date Month Day Year
Teres	: Caren		1		2		<u> </u>	フレアアプレ
The Adency is authorized to t	mayre autament to throse Persed & Tolle	s. Chapter 111's Section 21, that	the information be audmitted to the	ne Agency Faiure to	provide the inform	ation beginning	a owl or	meny against the owner or

NO PROFESSION AND TO SEE THE CO.

1-7865 A 1-7865 B-D

•	E FORM DESIGNED TO PRINT 8	RIINES PER INCH		PA Form 8700-		÷	_ Form Approved. C	Man	2050.000e E-	
		1. Generator's US EPA ID		Manifest Doc		2 j			the shaded	
Π	UNIFORM HAZARDOUS WASTE MANIFEST	TLD049809379		25794		t	a is not r	equired	by Federal	
				123/34		1			Illinois law.	
	3. Generator's Name and Mailing Add Olin Chemical	Iress Location I	If Oifferent:			A 11310	os Manifest Doc	iment N	r Of D	AYZZT
	Patterson Rd					IIL:	141U4	18.	:0)c <u>c</u> -gp:	FEE PAID
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P.O. BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 (217) 782-6761 AND SPECIAL WASTE. State Form LPC 62 8/81 IL532-0610 NOTE: FORM DESIGNED TO PRINT 8 LINES PER INCH. EPA Form 8700-22 (Rev. 6-89) Form Approved. OMB No. 2050-0039, Expires 9-30-91 Information in the shaded areas is not required by Federal law, but is UNIFORM HAZARDOUS 1. Generator's US EPA ID No. Manifest LD049809379 1900 Cumpen 5004 required by Federal required by Illinois law. WASTE MANIFEST 3. Generator's Name and Mailing Address Location If Different: A. Illinois Manifest Document Number: Olin Chemicals IL 4467734 MANIFEST & Patterson Road - Post Office Box 221 9 B. Illinois Company Control Co Joliet, Illinois 4. Generator's Phone(815 Generator s 11917 014 5 010 010 5. Transporter 1 Company Name 6. US EPA ID Number C. Illinois Transporter's ID : 125 7 0 0 7 5 Chemical Waste Management-TSD 00992026 D. (708) 396-1050 "Transporter's Phone 7. Transporter 2 Company Name E. Illinois Transporter's ID Francis 0, 0, 7, 5 US EPA ID Number Chemical Waste Management-Alsip 009920268 FX08) 396-1060 ? Transporter's Phone 9. Designated Facility Name and Site Address US EPA ID Number Facility's ID i 1 67 Trade Waste Incineration H. Facility's Phone April 1997 #7 Mobile Avenue <u>Sauget</u>, Illinois 009864 The same 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) 12. Containers 13. Total Unit Waste No. Type No. Quantity Wt/Vol G Sodium Pernanganate Solution Ε (:XD1010 Oxidizer N 000PK JO-1 PWIC E Waste Acid Liquid R XIDIOOL Corrosive Material 9000 CAR 418383 Т NAITUO C. 0 R 1111 EPA HW Number 1.11XJ. Additional Descriptions for Materials Listed Above The OLDEVE CUE. REPOLKS K. Handling Codes for Wastes Listed Above In Item # 14 11W Drom # OCR-2 = Gallons 2 = Cubic Yards 1. 44 nt of an exercency 15. Special Handling instructions and Additionationographics BE DISPATCHED Juntact Chemical Waste NO LATER THAN Management, Inc. At (205) 652-9721 SIGNATURE 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future direct to human health and the environment, OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can a fold. Date Proted/Typed Name Month Day innega Brown 0171019191 Date 17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Signature Month Day Year 071019

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19. Discrepancy Indication Space

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DEPARTMENT OF ENVIRON ENTAL QUALITY
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STATE OF LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY HAZARDOUS WASTE DIVISION P.O. BOX 82178 BATON ROUGE, LOUISIANA 70884-2178

PLEASE PRINT OR TYPE (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-92

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PLEASE PRINT OR TYPE (Form designed for use on elite 112-outch) typewriter) UNIAORN HAZARDOUS WASTE MANIFEST I . Senerator s US EPA 10 No. 3 7 9 3 Document No. information is the shaded areas is not required by Federal law 2 Page A State Marifest Dog 3162976 Patterson Road Joilet, Hillinois 60434 Cenerator's Phone (815) 727-5971 C. State Transporter's ID 0 0 Transporter 1 Company Name US EPA IO Number Chemical waste Management, Inc. D. Transporter's Phone . 108/390-11 16 10 19 19 12 10 12 16 18 11 7. Transporter 2 Company Name E State Transporters D - I mall. US EPA ID Number Filinsporter's Phone in State & Co. 9. Designated Facility Name and Site Address US EPA ID Number Chemical Waste Management, Inc. John Brannon Road, P+2 70663 1/18/2 |L |A |D |O |O |O |7 |7 |7 |2 |O |1 =318/583-2169 Carlyss, Louisiana 12. Containers 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) Туре No. 3 NCW-REGULATED MATERIAL 00404002806 52L AM 6346 J. Additional Descriptions for Materials Listed Above 14. OC-36, 51, 135, 15 Ford and special and mysterion to वित्रक वर्ग माठिकार वित्रवर्ग माठिका व्रक्रम स्थ 5. Special Handling instructions and Additional Information In event of an emergency contact Chemical Waste Management, Inc. at (205)652-9721. For any manifest discrepancy, contact Alsip Technical Services at (708)396-1925. たけ ふたいほうしこむ Month Day Printed/Typec Name Year 04109192 Priptecriffypec Name Month Day Year All worther 18 Transporter 2 Acknowledgement of Receipt of Materials Month Day Printedi Typec Name 1 19 Discrepancy Indication Space 20 Facility Owner or Ocerator Certification of recept of hazardous materials covered by this manifest except as noted in Item 19. Signature Printedi Typec Name 11/1/11/11

STATE OF LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY HAZARDOUS WASTE DIVISION P.O. BOX 82178 BATON ROUGE, LOUISIANA 70884-2178

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SPILLED IN LOUISIANA CALL THE LOUISIANA HAZMAT UNIT AT 504/925-6595 (DAY OR NIGHT)

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PLEASE PRINT OR TYPE (Form designed for use on elite (12-pitch) type writer.) Form Approved OMB No. 2050-0039. Expires 9-30-92 1. Generator's US EPA ID No. Manifest Document No. information in the shaded areas is not required by Federal UNIFORM HAZARDOUS WASTE MANIFEST A. State Manifest Doc 3 Offi The Trail Moor Corfesion Patterson Road 50434 Joliet, Illinois B. State Generator's ID 727-5971 4. Generator's Phone 815 Transporter 1 Company Name US EPA D Number C. State Transporter's ID 00 Chemical Waste Management, Inc. O. Transporter's Phone 1 4 9 0 9 9 2 0 2 6 8 1 708/396-1926 🙈 7. Transporter 2 Company Name US EPA ID Number E. State Transporter's ID F. Transporter's Phone 9. Designated Facility Name and Site Address US EPA ID Number 10 G. State Facility's ID Chemical Waste Management, Inc. John Brannon Road H. Facility's Phone Carlyss, Louisiana 70363 4 A D O O O 7 7 7 2 0 1 318/538-2169 12. Containers 13. Total Quantity 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) , : Waste No. Type *NON- LEGULATED HATERIAL HOW - REGULATED 67519 "NEW- REGULATED MILIERIAL NON-KEGUETIED Additional Descriptions for Materials Listed Above K. Handling Codes for Wastes Listed Above a. 00-14,15,16,35,20,21,30 16. M142, M13Z H+ 116. M 142, M132 1569,10-11,12,13 15 Special Handling Instructions and Adoltonal Information In the event of an emergency, contact Chemical Maste Management at (205)652-9721. For any manifest discrepancy, contact Msio Technical Services at (709)396-8334. ١١١ : ٢٠٠٠ Printed/Typed Name Month Day Year 17 Transporter 1 Acknowledgement of Receipt of Materials Printed: Typed Name Month Day PIP 18 Transporter 2 Acknowledgement of Recept of Materials Month Day Printed, Typed Name 19 Discrepancy Indication Space 20 Facility Owner or Operator Certification of rece of c1 hazardous materials covered by this manifest except as noted in term 19.

STATE OF ILLINOIS

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State Form LPC 62 8/81 IL532-0610

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•		UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA I L D 0 4 9 8	Δ.	Manifest Zument5103	2. Pa	4 required l	by Fede	e shaded areas is no rallaw, but is require-
П	3.	Generator's Name and Mailing Address	Location If D	ifferent		A. Illino	ois Manifest Docu	ment N	lumber Fee Paid,
П		Olin Chemicals Corporation Post Office Box 2219	Patterso	n Road			3/194	42	Applicable
П	1.	Joliet, Illinois 60434	Joliet,	Illinois 60	0434	B. Illin Gen	erator's	- ^	1 2 2 2
		. Generator's Phone (815) 727 - 5 . Transporter 1 Company Name	<u>6.</u>	US EPA ID Numbe	·	CIllia	ois Transporter's		4 15 10 10 10
П	1			1 0 9 9 2 0 2			8) 396-192		10 10 17 15 ansporter's Phone
П	7.	Chemical Waste Management. Transporter 2 Company Name	8.	US EPA ID Numbe			ois Transporter's	<u> </u>	101017
П		Chemical Waste Man	successant IIL			F. (20	N 396-19	71 Tr	
П	9	. Designated Facility Name and Site Address	10.	US EPA ID Numbe	er	G. Illin	iois -		- with the
		Trade Waste Incineration				10	·····/ 1 16 1		211101010
П		#7 Mobile Avenue	L.			1	cility's Phone		
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$\ \ $		1. 03 001 Description (metaling Proper Sing	oping Name, Hazard Cias	s, and ib Number)	No.	Type	Total	Unit Wt/Vci	Waste No.
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	7	NA 1807 Additional Descriptions for Materials Listed A IA) Drum H OCT - 1-9	above the aba	e are lappe	ck S		nating Codes for Item # 14		2 .5 - **
	١,	101 - TON H MCT - 111				1 =	Gallons	2 =	Cubic Yards
	l,	1c) Dran # OCT 11-14	code: 0005, 43	328					
		W Drum # OCT -17							
	1	5. Special Handling Instructions and Addition	al Information						
		In event of an emergency,	contact Chemic	al Waste Mana	gement,	Inc	. at (205)	652-	9721.
						7/5	יייניב־היי		
	1	6. GENERATOR'S CERTIFICATION: I hereby decia	re that the contents of this c	onsignment are fully and	accurately se			****	/ 2 PTSP3=
	П	proper shipping name and are classified packed, according to applicable international and national	marked, and labeled, and ar) <u>,</u> ::	Z 152
		If I am a large quantity generator, I certify that I	have a program in place to	reduce the volume and	toxicity of w	ste gen	erated to the degre	es i hav	ecetejizhed to be?.
		economically practicable and that I have selecte future threat to human health and the environment	d the practicable method o ent. OR, if I am a small qua-	f treatment, storage, or c ntity generator, I have m	disposal curre ade a good fa	ntly ava	ilable to me which t to minimize my w	aste ge	res the present and neration and select—
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1	r 1	17. Transporter 1 Acknowledgement of Receip	t of Materials	1	· · · · ·	<u>.</u>			Date
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		-PAVID TONKOUICH	·	TALL	<u>///</u>	<u> </u>			02069
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	_	20/Facility Owner or Operator: Certification o	f receipt of hazardous m		is manifest e	xcept a	s noted in item 1	9.	Date
	ÝΓ	Printed/Typed Name	h 15	Bignature Lhi		ß	1,	_ ;	Month Day Ye
	<u> </u>	WINA WILL	1/LU	wywine		عد	u din	۰۰ د مد مد	of penalty against the owner
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State Form LPC 62 8/81 IL532-0610

PL	EASE TYPE Form designed for use on elite (1	2-pitch) typewriter)	EPA Form 8700-	22 (Rev. 9-88)	Form Ag	proved OM8 N	o. 2050-0	XX)9
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	3 8976 Chemears Torporation Post Office Box 2219 Joliet, Illinois 60434	Patter	Son Road I, Illinois	60434		71944		Fee Paid, if Applicable
	4. Gerierator's Phone (815) 727 - 5. Transporter 1 Company Name		US EPA ID Nur		Generato ID	ransporters		4,5,0,0,0,1
	Chemical Waste Management,	Inc. II t	_ D O 9 9 2 O		o. 708)	396-192	5 Tra	insporter's Phone
	7. Transporter 2 Company Name [12] CALLES COMPANY NAME	e.	US EPA ID Nui ころのタロックマ		l	ransporter's		Insporter's Phone
į	9. Designated Facility Name and Site Address Trade Waste Incineration #7 Mobile Avenue	10.	US EPA ID Nur		G. Illinois Facility's	1,6		2 1 10 10 10 19
	Sauget, Illinois 62201	T t	D 0 9 8 6 4	2 4 2 4	H. Facility's	271-280	4	
	11. US DOT Description (Including Proper Ship		•	No.	ı_ İ	13. Tot al Duantity	14. Unit Wt/Vol	Waste No.
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	J. Additional Descriptions for Materials Listed A	bove The ab	or cre lat	30 a c/C S.	K. Handlin	g Codes for	Wastes	Listed Above
	112) Drum # OCD 1-3,6,7	•		(Decents)	1 = Gal		2 = (Cubic Yards
-	(15) Dum # 00-8 11,13	ile, 00,22-2	۲.					•
:	1/d) Dom to OCD - 9 10 - 15. Special Handling Instructions and Additions	D			<u> </u>			
	In evert of an emergency,		cal Waste Ma	nagem ent,	Inc. a	t (205)6	552-9	721.
	16. GENERATOR'S CERTIFICATION: Thereby declar proper shipping name and are classified, packed, if according to applicable international and national	marked, and labeled, and						
	If I am a large quantity generator, I certify that I economically practicable and that I have selected future threat to human health and the environme	have a program in place of the practicable method int; OR, if I am a small g	d of treatment, storage, uantity generator, I have	or disposal curre	ntty available	to me which n	eנישיטום	s the present and eration and select
	Printed/Typed Name	le to me and that I can ar	Signa)ure		111			Date Month Day Year
<u>*</u>	JOSEPH CARROLL 17. Transporter 1 Acknowledgement of Receipt	of Malouale	Jesiph	(AR	nec			0 2 06 92 Date
R	Printed/Typed Name	Of Materials	Signature	1			L	Month Day Year
N 5	DAVID TO AKOU CH		120	LA	<u>L</u>		₁	020697
Ā	18. Transporter 2 Acknowledgement of Receipt Printeg/Typed Name	or Materials	Signatuse		, _/			Date Month Day Year
e R	KUNT HEIDECKE		Kulj,	ducke	sks_		· '	02/782
F	19. Discrepancy Indication Space							
A C								
Ĺ	20 Figure Canador Operator: Certification of	receipt of hazardous	material covered by	this manifest •	cept as not	ed in item 19		Date
7	Printeck Typed Name	MS	signature Unuth	in	alli	ans		Monin Day Year
	This Agency is authorized to require pursuant to Hinois Remised Statul of 1999 Bit of not to exceed \$25,000 per day of Holistics. Fatisfication of Center	es, Chapter 111 + Section 21 Ins I this information may result in a COPY 1. TSD MAI	· · · · · · · · · · · · · · · · · · ·		to provide the info nt up to 5 years. Ti	rmátion may result his form nas been a	poroved b	penalty equinal the owner of the Forms Management of 138

P.O. ROX 19278

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4. Generator's Phone (815) 727-5 5. Transporter I Company Name				10	19		15,0,0,	<u>0 [1</u>
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Chemical Waste Management. 7. Transporter 2 Company Name		3 EFA ID NUMBE	التناسية السناد		396-192			
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3. Generator's Name an		Location If		2996		ois Manifest Docu		
Olin Chem	reals Corporate	. DC		٠.	111	37335	35	Fee Paid, If Applicable
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4 Generator's Phone (hais 60434		t Ilinas wu	431	Ger	nerator's	لد تم ح	
5. Transporter 1 Comp.		1-21+1	US EPA ID Number		1D	iois Transporters		120001
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Chauceln	ate Margan	at the	1000 FP000-	<u> </u>		18) 396-19a		sporter's Phone
7. Transporter 2 Comp.	any Name	ð.	US EPA ID Number			ois Transporter's		
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9 Designated Facility !		. 10.	US EPA ID Number	•	G. Illin		٠.	
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#.7. Mobile	. Drive				H. Fac	ility's Phone 🕝		
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J. Additional Description	ons for Materials Listed A	Above The ab	sue we vappac	K5	K. Ha	ndling Codes for	Wastes L	isted Above
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116) Drum#				_	1	Gallons		ubic Yards
119 DUW #	000-4					TERIAL MUST		
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	structions and Additiona	ai Information		-		- An	260	<u>}</u>
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	ment method that is availab	le to me and that I can affi	,,	<u></u>				Date
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	perator: Certification of	receipt of hazardous r	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	manifest e	xcept)a	s noted in item 1		Date
Printed/TypedNam	5 H / · !	lital.	Signature //	(A)	1	illia	N	ionin Day Year
10/1/1/11/11	'+- I.V' i i	IHINS	MANCHU	w (uvum	20	126675
This general susherized to require	e Dursuant to ((Uno.s Revised 51st.)) I per day of violation - Faisificat on o	es Chapter 111's Section 21 that	this information be supmitted to the	Agency Failure	10 provide	the information may resulter. This form has been	1 'N 8 CIMI D4	naity against the owner ne rights Management
Ser er			()				urs	H-C.
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State Form LPC 62 8/81 IL532-0610

STATE OF ILLINOIS

<u>'L</u>	EASE TYPE (Form designed for use on elite (12-pitch) typewriter) EPA Form 8	700-22 (Rev. 9-88)	Form Approved OMB N	to 2050-703 9
A	UNIFORM HAZARDOUS I. Generator's US EPA ID No. I L D 0 4 9 8 0 9 3 7	9 1000umbuni9402		on in the shaded areas is not by Federal law, but is required is law
	3. Generator's Name and Mailing Address Location if Different Olin Chemical Company Patterson Road		A. Illinois Manifest Docu	F F 11 11
	Joliet, Illinois 60434 4. Generator's Phone (815) 727-5971		B. Illinois Generator's	7 ₁ 0 ₁ 4 ₁ 5 ₁ 0 ₁ 0 ₁ 1 ₁ C
١	5. Transporter 1 Company Name 6. US EPA IC) Number	C. Illinois Transporters	
	Chemical Waste Management, Inc. I I N 0 9 9 7. Transporter 2 Company Name 8. US EPA 10	202681	D. 708) 396-192	
	7. Transporter 2 Company Name 3. US EPA II.	Number	F. ()	Transporters Phone
	9. Designated Facility Name and Site Address 10. US EPA ID) Number	G. Illinois Facility's	Q L (V) 孝
	CWM Resource & Recovery, IVC 4301 Infirmary Road		H. Facility's Phone	71115000
	West Carrollton, Ohio 45449 h H D O 9 3	945293		
	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Nu.	mber) 12. Con No.	1_ Total	Unit Waste No.
G	1. Hazardous waste, 1/2010, 10.0.5. (1,1), 17,00		Type Quantity	EPA HW Number
E N	IN OIL) ORM-E NA 9189	005	DM0,93,80	Authorization Number
E	b. waste Flamobe liquio, n.o. S. (Diesel Fue	· · · · · · · · · · · · · · · · · · ·	1 1	EPA HW Number
R A	Retroieum Distillates) Flammable Ilavid UN	1993		Authorization Number
T	C. Hazarbaus waste, havid, no. s. (manylare Ch		10.m0.04.4.5	EPA HW Number
O R	CARDONTETROCHIOTIDE) ORM-E NACIBO ROLDOIA, DO 39, DO40, FOO; FOO)			Authorization Number
1	1. Mon-Requiated Material	000	10M0,0,14,0	EPA HW Number
	" HAT REGULATED HEREITST			Authorization Number
	J. Additional Descriptions for Materials Listed Above AN of me above one		K. Handling Codes for	
	112) Drum # OC 36,53,61,63; OC19,5000000000000000000000000000000000000		in Item # 14	2 = Cubic Yards
		3,5005	1 = Gallons	2 - Cubic Talus
	110) brum # 00 94,119,5 overpack D019,0009	10040, F002	77.3	
1	15. Special Handling Instructions and Additional Information			
1	In event of an emergency contact Chemical Waste	Management,	Inc. at (205)6	52-9721.
	16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are proper snipping name and are classified, packed, marked, and labeled, and are in all respects			
	according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the vo	lyme and toxicity of w	raste generated to the degre	ee I have determined to be
	economically practicable and that I have selected the practicable method of treatment, sto future threat to human health and the environment; OR, if I am a small quantity generator,			aste generation and select
	the best waste management method that is available to me and that I can afford. Printed/Typed Name Signatore	101	//	Month Day Year
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ORT				Month Day Year
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F	19. Discrepancy Indication Space			
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T	20. Facility Owner of Operator. Gentlession of rescription materials cover	ea by this manifest	except as noted in item 3	Month Day Year
	m. roce ma	~ /		082192

P O. BOX 13276

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State Form LPC 62 8/81 | IL532-0610

FOR SHIPMENT OF HARDOUS AND SPECIAL WARTE

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3. Generator's Name and Mailing Address	Location If Different:	<u> </u>	A. Illinole Mani			2.79 E
Olin Chemicals Corporation Patterson Road				65-16	56	Арриозьб
Joliet, Illinois 60434 (815)727-5971 NUVBERS (205)652-9721		B. Illheid Generator's	7-1, 9, 7,	11135	7
5. Transporter 1 Company Name	6. US EPA ID N	umber	C. Winds Trans	iperter's (D		U.D.
Chemical Waste Management,	Inc. 1100992	0 2 5 8 1	0. (/08) 39	5-1925	Transporter	Pola
7. Transporer 2 Company Name	· JYJ! 1/4 49706	umber	E. Illinois Tran			
9 Designated Facility Name and Site Address	10. US EPA ID N		G. Hinole	4	Transporter	a Enorga
Trade Waste Incineration	10. 03 272 10 14		Facility's ID			0.0.0
#7 Mobile Avenue	1		H.J. activy a. P.	كحدثوابد		dot-
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11. US DOT Description (including Proper Shipping In	EMB, MAZERO CIESS, ENG IO NUMOSKY	No.	7) U	n Sw	Ya 🛬
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